

AD-A256 835



2

NAVAL POSTGRADUATE SCHOOL Monterey, California



SDTIC
ELECTE
NOV 06 1992
S E D

THESIS

DESIGN AND IMPLEMENTATION OF A PATIENT
TRACKING AND RECALL SYSTEM FOR BRANCH
DENTAL CLINIC MONTEREY

by

Timothy P. Steele

March 1992

Thesis Advisor:

Hemant K. Bhargava

Approved for public release; distribution is unlimited.

92-29052



257450

121 p

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE				
1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE				
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)	
6a. NAME OF PERFORMING ORGANIZATION Naval Postgraduate School		6b. OFFICE SYMBOL (If applicable) Code 37		7a. NAME OF MONITORING ORGANIZATION Naval Postgraduate School
6c. ADDRESS (City, State, and ZIP Code) Monterey, CA 93943-5000			7b. ADDRESS (City, State, and ZIP Code) Monterey, CA 93943-5000	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS	
			Program Element No.	Project No.
			Task No.	Work Unit Accession Number
11. TITLE (Include Security Classification) DESIGN AND IMPLEMENTATION OF A PATIENT TRACKING AND RECALL SYSTEM FOR BRANCH DENTAL CLINIC MONTEREY				
12. PERSONAL AUTHOR(S) Steele, Timothy P.				
13a. TYPE OF REPORT Master's Thesis		13b. TIME COVERED From To		14. DATE OF REPORT (year, month, day) 1992, March
15. PAGE COUNT 127				
16. SUPPLEMENTARY NOTATION The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
17. COSATI CODES			18. SUBJECT TERMS (continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUBGROUP	Information System Analysis; Software Development; Patient Tracking and Recall; Relational Database	
19. ABSTRACT (continue on reverse if necessary and identify by block number) This thesis analyses the information system requirements of Branch Dental Clinic, Monterey, and develops a computer application to automate the clinic's patient tracking and recall process. The application replaces an existing mainframe-based, single-file system with a PC-based, relational database management system that provides greater functionality, enables increased productivity, improves data integrity and accuracy, and includes currently lacking security features and administrative functions.				
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS REPORT <input type="checkbox"/> LIMIT USERS			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED	
22a. NAME OF RESPONSIBLE INDIVIDUAL Hemant K. Bhargava			22b. TELEPHONE (Include Area code) (408) 646-2264	
			22c. OFFICE SYMBOL Code AS/BI	

DD FORM 1473, 84 MAR

83 APR edition may be used until exhausted
All other editions are obsoleteSECURITY CLASSIFICATION OF THIS PAGE
UNCLASSIFIED

Approved for public release: distribution is unlimited

Design and Implementation of a Patient Tracking and Recall System
for Branch Dental Clinic Monterey

by

Timothy P. Steele
Lieutenant Commander, United States Navy
B.A., University of Washington, 1979

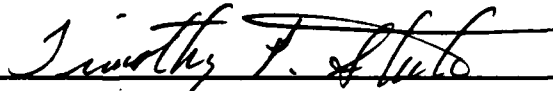
Submitted in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE IN INFORMATION SYSTEMS


from the

NAVAL POSTGRADUATE SCHOOL
March 1992

Author:


Timothy P. Steele

Approved by:


Hemant K. Bhargava, Thesis Advisor


Dani Zweig, Second Reader


David R. Whipple, Chairman
Department of Administrative Sciences

ABSTRACT

This thesis analyzes the information system requirements of Branch Dental Clinic, Monterey, and develops a computer application to automate the clinic's patient tracking and recall process. The application replaces an existing mainframe-based, single-file system with a PC-based, relational database management system that provides greater functionality, enables increased productivity, improves data integrity and accuracy, and includes currently lacking security features and administrative functions.

Accession For	
NTIS CRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution /	
Availability Codes	
Dist	Avail and/or Special
A-1	

DTIC QUALITY INSPECTED 4

TABLE OF CONTENTS

I. INTRODUCTION AND PRELIMINARY INVESTIGATION	1
A. BACKGROUND	1
B. PROBLEM DEFINITION	3
C. SCOPE	5
D. EVALUATION OF ALTERNATIVE SOLUTIONS	6
1. Cost Feasibility	6
2. Technical Feasibility	7
3. Schedule Feasibility	8
II. REQUIREMENTS ANALYSIS	9
A. DATA REQUIREMENTS	9
1. Object Development	9
2. Domain Definition	11
B. APPLICATION REQUIREMENTS	11
1. Processes	11
2. Operational and Administrative Requirements	13
3. Environmental Requirements	14
III. SYSTEM DESIGN	15
A. LOGICAL DATABASE DESIGN	15
1. Object to Relation Transformations	15

2. Relation Descriptions	16
B. APPLICATION DESIGN	17
IV. SYSTEM IMPLEMENTATION	21
V. SUMMARY AND RECOMMENDATIONS	22
A. SUMMARY	22
B. RECOMMENDATIONS	22
LIST OF REFERENCES	24
APPENDIX A: OBJECT SPECIFICATIONS	25
APPENDIX B: UPDATE, DISPLAY, AND CONTROL MECHANISMS	28
APPENDIX C: USER'S MANUAL	34
APPENDIX D: RELATION DEFINITIONS	35
APPENDIX E: PROGRAM CODE	36
INITIAL DISTRIBUTION LIST	37

ACKNOWLEDGEMENT

Special acknowledgement must be given to my wife, Anne, for her support and forbearance as I spent long hours at the computer, seemingly oblivious to the meaning of life, working on this thesis. I am truly in her debt.

I. INTRODUCTION AND PRELIMINARY INVESTIGATION

This thesis designs, documents, and implements a computer application to perform dental patient tracking and recall functions for the Branch Dental Clinic, Monterey (BDCM). Information that was collected during a preliminary investigation of the information system requirements of BDCM is presented in this chapter. Specifically, the relevant background of BDCM and the information system problems that led to the conduct of the thesis are presented, the scope of the project is defined, and three alternative solutions are evaluated.

A. BACKGROUND

BDCM provides regular dental care and emergency dental treatment to all active duty military staff and students stationed both at the Naval Postgraduate School (NPS) and the various NPS tenant commands. Dental appointments are regularly scheduled based on a four-class rating system (1 to 4, in order of increasing priority) indicating the member's need for treatment. Emergency care is provided whenever required.

Interviews with the BDCM Director and staff identified four major information-oriented activities within the clinic: (1) appointment scheduling, (2) inventory management, (3) maintenance of a Dental Information and Retrieval System (DIRS) as prescribed by higher authority, and (4) patient tracking and recalls. With regard to appointment scheduling and inventory management activities, BDCM satisfaction with

current manual methods was found to be high. Moreover, the clinic Director felt strongly that attempts to computerize these two functions, given the relatively low volume of activity, would not increase efficiency or effectiveness. Hence, these two business functions were dropped from further investigation.

The DIRS system operates on a personal computer (PC) and consists of proprietary software provided by the Navy Regional Dental Center (NRDC) for use at all subordinate branch clinics. Since NRDC mandates that branch clinics use DIRS to collect and report detailed data on all dental care provided, further analysis of this activity was unnecessary.

Patient tracking and recall functions at BDCM are partially automated by a mainframe-based, single-user, single-file database management system. It is this system and the requirements of the patient tracking and recall process that the remainder of this thesis addresses.

The mainframe-based database application allows data entry and updating, tracks members' dental health status (class), generates recall notices, prints sorted member rosters, and provides operational readiness summary statistics. When members check their records into the clinic a dentist's review of their dental records results in a class rating being assigned. A class rating of "1" indicates no need for dental treatment beyond a mandatory annual examination (a T2-exam). A class rating of "2" or "3" indicates a need for additional treatment. A class rating of "4" indicates the member is past due for an annual exam (it is assigned regardless of dental health). Just prior to a member's T2-exam anniversary, he/she is notified by memorandum to make an

appointment for an annual exam using an automated patient recall system. Computer generated recall letters are routed to student mail center (SMC) mailboxes or staff offices as appropriate.

B. PROBLEM DEFINITION

The existing application for patient recalls was written several years ago for use on the NPS mainframe computer. When the system was installed it provided significant benefits over the previous labor and time intensive manual recall process. However, the system was crude in its interface, limited in functionality, and difficult to use. Moreover, due to turnover of personnel since its installation, none of the current staff are familiar with the history of the system; no documentation can be found; and no system maintenance is available.

Interviews with end-users revealed five general problem areas with the mainframe-based system: poor access and responsiveness, unfriendly user-interface, inadequate data validation checks, absence of documentation, and incomplete functionality. Examples of specific problems highlighted by end-users in each of these general areas are presented below.

Limited mainframe access and poor responsiveness have been longstanding limitations. BDCM access to the mainframe is via communications software and 1200 baud modem from the clinic PC. By today's standards, this data transfer rate is slow. The system frequently responds slowly during working hours due to both the high number of users and resource-intensive computing tasks. Heavy use of the mainframe

by modem users combined with the limited number of modem receiving lines (16 at the time of this investigation) results in the frequent inability to access the system as needed. This necessitates periodic off-hour work by BDCM staff and delays response to telephone queries from NRDC regarding operational readiness.

Unfriendliness of the user-interface is a significant problem, particularly for new users. In most instances the user is presented with only a blank screen and a prompt, which specifies which application module is active (e.g., main, add, edit, delete, print). A rudimentary help function, when invoked, provides a list of options for the active module. Hence, unless all commands are memorized, the user must continuously invoke the help function to navigate and use the system. Data entry itself is facilitated somewhat by a field list from which the user selects a field to enter or edit, but it remains a cumbersome process. The user must select a field from the list, enter the data, and select another field from the list rather than simply automatically moving from one field to the next. Additionally, during record appending the field listing scrolls up and off the screen, leaving no hint of the remaining fields that require additional data entry.

The inadequacy of field validation checks in the mainframe application has allowed a cumulative deterioration in the accuracy and completeness of records in the database. For example, numbers are improperly allowed in various name fields. Moreover, since member records are indexed by name rather than Social Security Number (SSN), two people with the same name are prohibited from being entered properly into the database. In such instances, the user must deliberately attempt to circumvent or "trick" the system by, for example, putting in a middle initial for one member but not the other. Related

to this, the system saves a new record whenever data is entered into the name field, regardless of content and regardless of whether the record has any other fields completed. Over time the database has accumulated much erroneous data and many incomplete records. Cleaning the database has been problematic since records cannot be located and edited or deleted unless an exact name match is entered.

The lack of system documentation has forced end-users to learn the system by experimentation. The total functionality of the system is not immediately obvious and can remain undiscovered and unutilized. Moreover, the logic underlying critical processes, such as the triggering of recall notices or updating dental class status remains unspecified. The lack of documentation has also precluded improving the functionality of the system and implementing fixes. For example, necessary follow-up form letters that are not included in the present system must be externally word-processed for each individual. Additionally, hard-coding of the signature name on recall letters has resulted in a long since-transferred Director's name appearing on the recalls sent to members.

C. SCOPE

The scope of this thesis is limited to the patient tracking and recall process. As noted previously, there are other business functions within the clinic, yet the patient tracking and recall process is the only information-intensive business function left up to local implementation that remains problematic.

D. EVALUATION OF ALTERNATIVE SOLUTIONS

Given that the problems with the existing patient tracking and recall system were deemed significant enough to warrant remediation, three alternative solutions were evaluated. The first alternative involved improving both the hardware and software associated with the mainframe-based system: replacing the modem connection with an on-line terminal, rewriting the software for increased functionality and ease of use, and documenting the system. The second and third alternatives involved designing and implementing a PC-based database management system to replace the existing mainframe application, the difference being whether a multi-user versus a single-user configuration should be developed. Multi-user capability was considered a "nice-to-have" feature that might be useful sometime in the future, yet it was clearly not a requirement for satisfactory performance of patient tracking and recall functions. Should a PC-based solution be selected, NRDC stipulated that it must be a compiled application that would not be subject to potential modification by inexperienced clinic staff.

1. Cost Feasibility

At the outset, NRDC made it clear that no funds were available to support improving the existing patient tracking and recall system. This limitation alone ruled-out upgrading the mainframe-based system—the cost of terminal acquisition and connection was prohibitive. Moreover, additional funds would be required to pay a technical expert to rewrite and document the mainframe software. Similarly, to exploit multi-user capability in a PC-based system would require additional funding to purchase required hardware. Hence, these two alternatives were eliminated from further consideration.

Designing and implementing a single-user, PC-based database management system was attractive from a cost standpoint. The development cost of such a system would be limited to the personal time and effort of the author. Further, appropriate development hardware (an IBM-compatible 80386 computer) and software (Foxpro 2.0 and Foxpro 2.0 Distribution Kit, a dBase-compatible development system with compiler) was already owned by the author. In addition, BDCM would not be required to purchase any additional hardware; their existing computer equipment could be used to evaluate prototypes and to install the final working system. BDCM staff were enthusiastic and committed to assisting with the development process.

2. Technical Feasibility

BDCM owned a Zenith 286 PC and peripherals that were compatible with the foreseeable processor, memory, storage, and video requirements of a new PC-based application. Moreover, Foxpro 2.0 can create applications able to run on any IBM-compatible PC with a minimum of 512K of random access memory (RAM) [Ref. 1]. Preliminary tests of routine database operations (browse, index, sort) with a test database approximately the same size as that of the existing mainframe data file (2000 records with 15 fields per record) using Foxpro 2.0 were successful on the BDCM PC and demonstrated acceptable speed of operations with only 512K of RAM.

Future maintenance of the application would not be provided by the author. Discussion of this issue with both NRDC and BDCM indicated that this was acceptable to them. It was agreed that the application should run on any minimally configured IBM-compatible computer to enable portability and that support for a standard dot-matrix

printer should be provided. Program code and documentation would be included with the delivered application to support future maintenance. (NRDC and BDCM acknowledged that any future maintenance would require purchase of Foxpro 2.0 and the Foxpro 2.0 Distribution Kit. Intermediate-level dBase or Foxpro programming skills would also be required.)

3. Schedule Feasibility

Based on the findings of the preliminary investigation, with detailed system analysis to begin 15 August, 1991, implementation of a fully operational PC-based system was scheduled for completion by 1 February, 1992. This left two months for correction of unforeseen problems before departure of the author.

II. REQUIREMENTS ANALYSIS

This chapter discusses the requirements phase of project development. The purpose of this phase of development was twofold: (1) during this phase the specific data requirements (objects) that must be represented in the database were defined and (2) the application or functional requirements which support the database were outlined.

A. DATA REQUIREMENTS

Initially, interviews were conducted with the BDCM Director and the dental staff responsible for hands-on use of the existing database. These interviews provided a general idea of the scope and objectives for an upgraded patient tracking and recall system. Working backwards from the existing application's outputs, preliminary object specifications and views were then developed and presented to the dental staff for feedback. Further discussions led to adjustments of the object specifications that satisfactorily met the clinic's needs.

1. Object Development

Important entities identified in the patient tracking and recall process are represented as the objects MEMBER, ACTIVITY, and CURRICULUM shown in Figure 1 below. Each of the objects possesses a collection of named properties. The properties listed within each diagram that are capitalized and within small boxes are themselves objects. The subscript "MV" denotes that the property is multi-valued. The MEMBER

object represents patients who have "checked-in" with the clinic upon arrival to NPS or an NPS tenant command. As can be seen in Figure 1, the ACTIVITY and CURRICULUM objects are properties of the MEMBER object. They associate each member with the properties of a specific activity and/or curriculum.

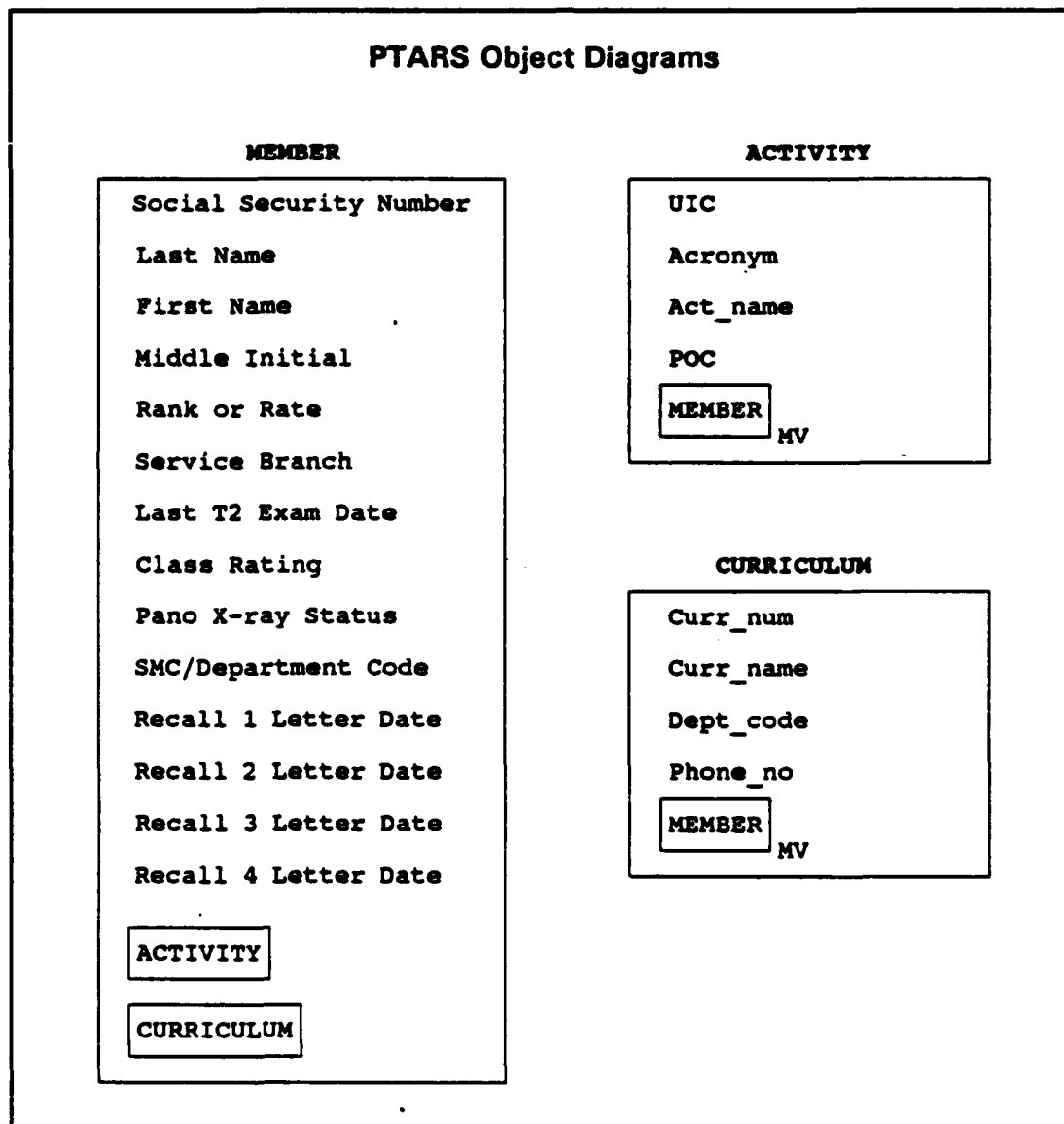


Figure 1. Object Diagrams

The ACTIVITY object represents each of the various commands served by BDCM. Note that the multi-valued MEMBER object is also a property of the ACTIVITY object. That is, a specific ACTIVITY can have multiple members.

The CURRICULUM object represents each of the many different curriculums offered at NPS. The MEMBER object is a multi-valued property of the CURRICULUM object; many students can belong to any given curriculum.

2. Domain Definition

The object diagrams were used to summarize knowledge of the objects and to present it to the users in an unambiguous fashion. Following user validation of the object representations, domain definitions were established. The domain of a property is the set of all possible values a property can have. Each domain definition contains a physical description of the type of data (e.g., numeric versus character) and any value constraints. Each definition also describes the function or purpose of the property. Refer to Appendix A for detailed object specifications, including object and domain definitions.

B. APPLICATION REQUIREMENTS

1. Processes

Building upon the data requirements discussed in the previous section, major processes within the patient tracking and recall process were identified through discussions with BDCM end-users. A level-1 data flow diagram (DFD), shown in Figure

2 below, was developed as a basis for validating analyst understanding of the processes with end-users.

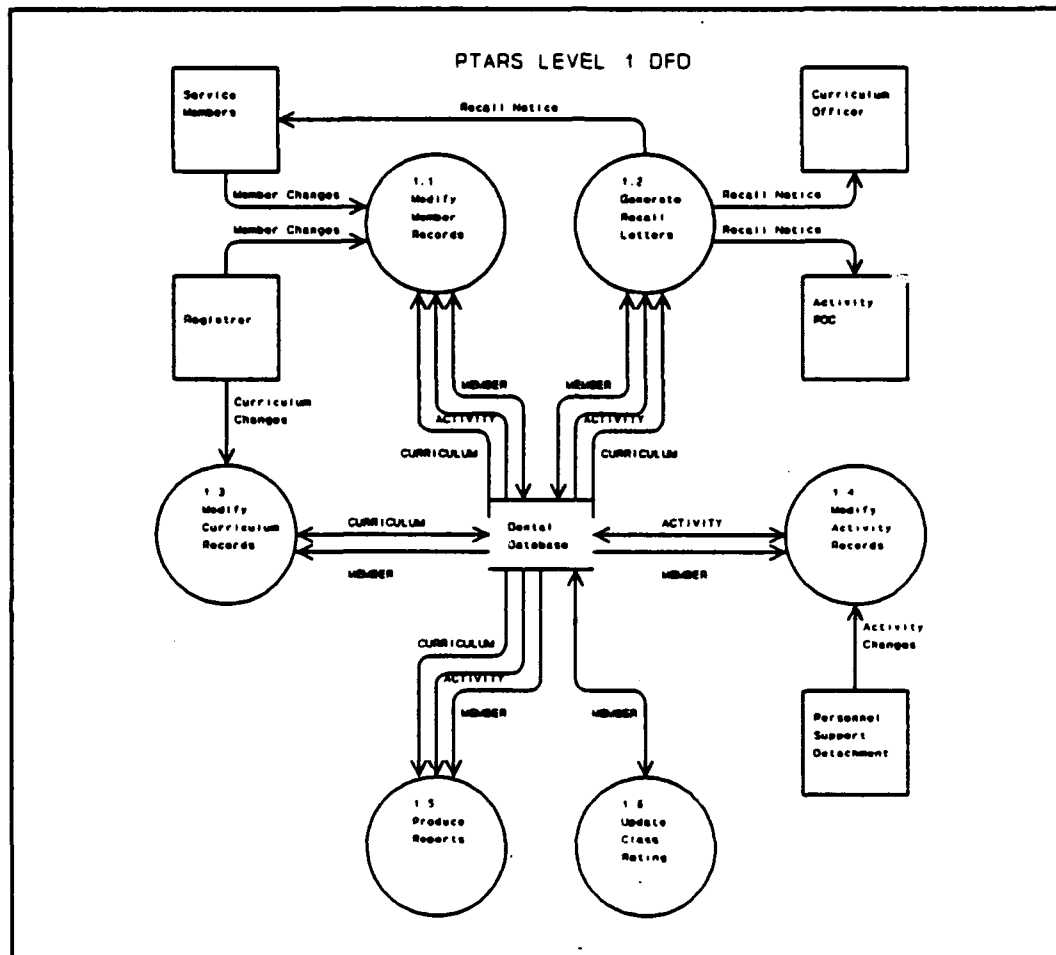


Figure 2. Level 1 Data Flow Diagram

Entities external to the system are shown in Figure 2 as square boxes and include Service Member, Registrar, Personnel Support Detachment (PSD), Curriculum Officer, and Activity Point of Contact. These entities are sources of data and/or recipients of system outputs (as indicated by the direction of the data flow arrows). The

numbered processes (denoted within the circles) summarize the operations involved in the overall patient tracking and recall process. Processes 1.1, 1.3, and 1.4 comprise the append, edit, and delete operations for the objects, MEMBER, CURRICULUM, and ACTIVITY. Process 1.2 involves the operations associated with generating and printing recall letters. An Operational Readiness report and various sorted rosters are produced in process 1.5. Member dental class is automatically updated to class 4 in process 1.6 for those individuals who have not had an annual examination within 12 months.

Following validation of the information presented by the level-1 DFD, a summary of system update, display, and control mechanisms was developed based on structured interviews with end-users. (See Appendix B.) During this process, information pertaining to each object was obtained that included inputs, outputs, processing notes, volume, and frequency. This information clarified what must be done within each object view.

Prototypes of forms, reports, recall letters, and menus were developed using Foxpro "power tools" (i.e., the Screen Builder and the Report Writer). These early prototypes clarified the expectations of end-users regarding the format of the user-interface and the display of information.

2. Operational and Administrative Requirements

System operational and administrative requirements were identified through discussions with BDCM staff. Operational requirements for the system are listed below:

- Single-user, PC-based application, operable on an "as needed" basis by the BDCM Administrative Petty Officer and/or the BDCM Receptionist

- Portable/re-installable to different, compatible PC
- Extensive "Help" available on-line
- Database backup/restore utilities
- System date and time change utilities
- System-access password protection; password change capability
- Database packing capability

Although it was agreed that program maintenance would not be possible with the compiled application, Foxpro 2.0 program code would be given to BDCM. Hence, should maintenance become critical at some point, modification of the application would be possible with the purchase of Foxpro 2.0 and the Foxpro 2.0 Distribution Kit. A User's Manual (see Appendix C) would be supplied to provide structured guidance for system use, data security and integrity, database backups and restorations, and system optimization.

3. Environmental Requirements

In an efficient system much of the member, activity, and curriculum data should be provided from a master database, shared with the Registrar and PSD. However, this is currently not possible since the data structure and hardware are not compatible. Until such time as the various NPS support entities/ADP-systems can communicate directly, it is incumbent upon the BDCM staff to take the initiative to obtain updated, hard-copy rosters from these two data sources as they become available.

III. SYSTEM DESIGN

In this chapter the two components of system design, logical database design and application design, are discussed. The objective of the design phase was to produce both the logical and physical details of the database and its application. Designing the logical database involved developing a "blueprint" of the database structure. From this blueprint a physical database was designed and the application was developed.

A. LOGICAL DATABASE DESIGN

1. Object to Relation Transformations

The design of the logical database was based on the relational database model [Ref. 2]. The objects MEMBER, ACTIVITY, and CURRICULUM, were transformed into a relational diagram. Figure 3, the relational diagram, shows the three relations that resulted: (1) the compound MEMBER object was transformed into the three relations MEMBER, ACTIVITY, and CURRICULUM; (2) the compound ACTIVITY object was transformed into the two relations MEMBER and ACTIVITY; and (3) the compound CURRICULUM object was transformed into the two relations MEMBER and CURRICULUM.

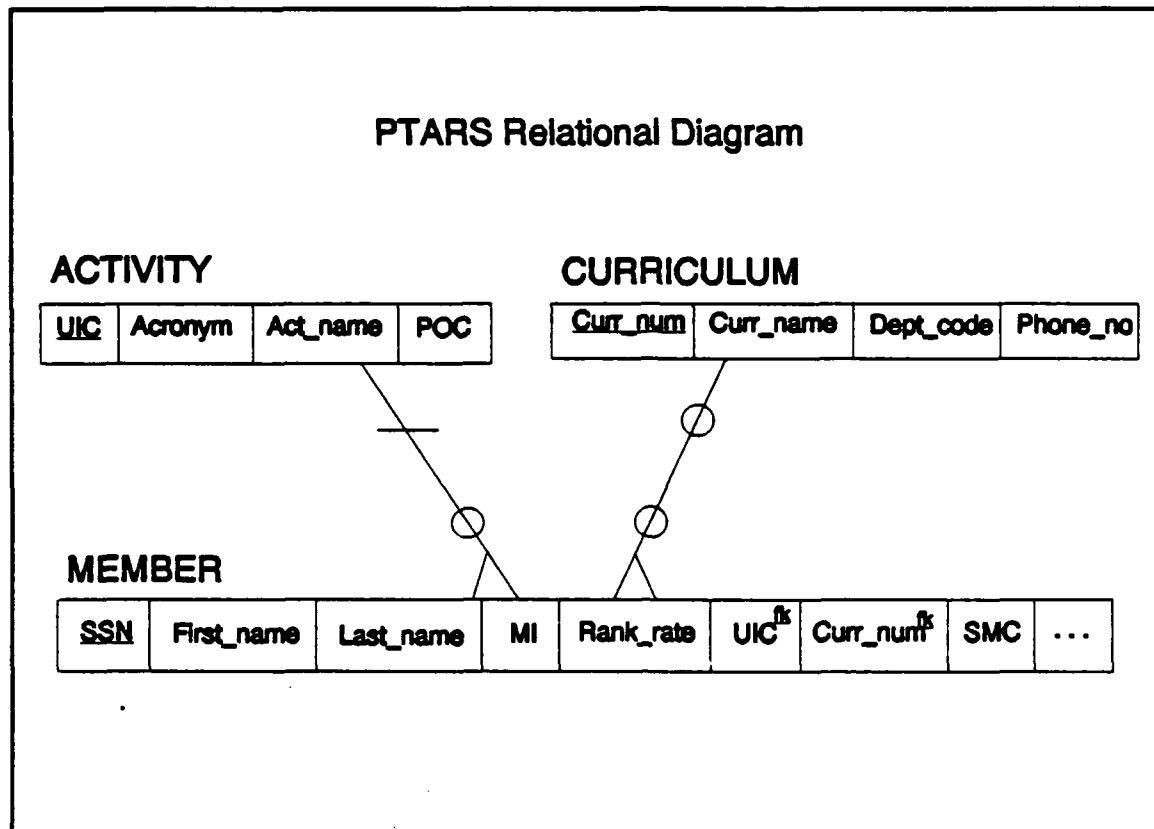


Figure 3. Relational Diagram

2. Relation Descriptions

Each of the three relations are reflections of the original objects with appropriate foreign keys included. Key data are denoted in Figure 3 by underlining. Foreign keys are denoted with the underlined superscript, ^{fk}. Summary descriptions of each of the relations are presented below. (Refer to Appendix D for detailed relation definitions.)

MEMBER

Number of attributes: 15

Key attributes: Social-Security-Number (SSN)

Foreign keys: Unit-Identification-Code (UIC)
Curriculum-Number

Relationships: ACTIVITY to MEMBER; 1:N; Mandatory:Optional
CURRICULUM to MEMBER; 1:N; Optional:Optional

ACTIVITY

Number of attributes: 4
Key attributes: UIC
Foreign keys: None
Relationships: ACTIVITY to MEMBER; 1:N; Mandatory:Optional

CURRICULUM

Number of attributes: 4
Key attributes: Curriculum-Number
Foreign keys: None
Relationships: CURRICULUM to MEMBER; 1:N; Mandatory:Optional

B. APPLICATION DESIGN

The application is the interface between the user and the database. It contains various control mechanisms to prevent direct access to the database and to maintain the integrity of the database. A menu hierarchy was used to aid and control user interaction with the system. The menu-driven approach was employed because it enables inexperienced end-users to access and use the full functionality of a system faster than with a command-driven system. The menu hierarchy depicted in Figure 4 was derived from user requirements. The Append, Edit/View, and Delete/View sub-menus apply to a selected object database. All user-selectable operations flowed from Main Menu selections. Figure 5 shows the final look of the Main Menu and depicts the generic structure of all menus. Figure 6 provides a view of the form for editing/viewing an existing member record. Although specific fields differ across the various forms in the application, the same form "template" is used throughout the application. Appendix C,

the User's Manual, presents comprehensive graphics of application menus, reports, forms, recall letters, and screens.

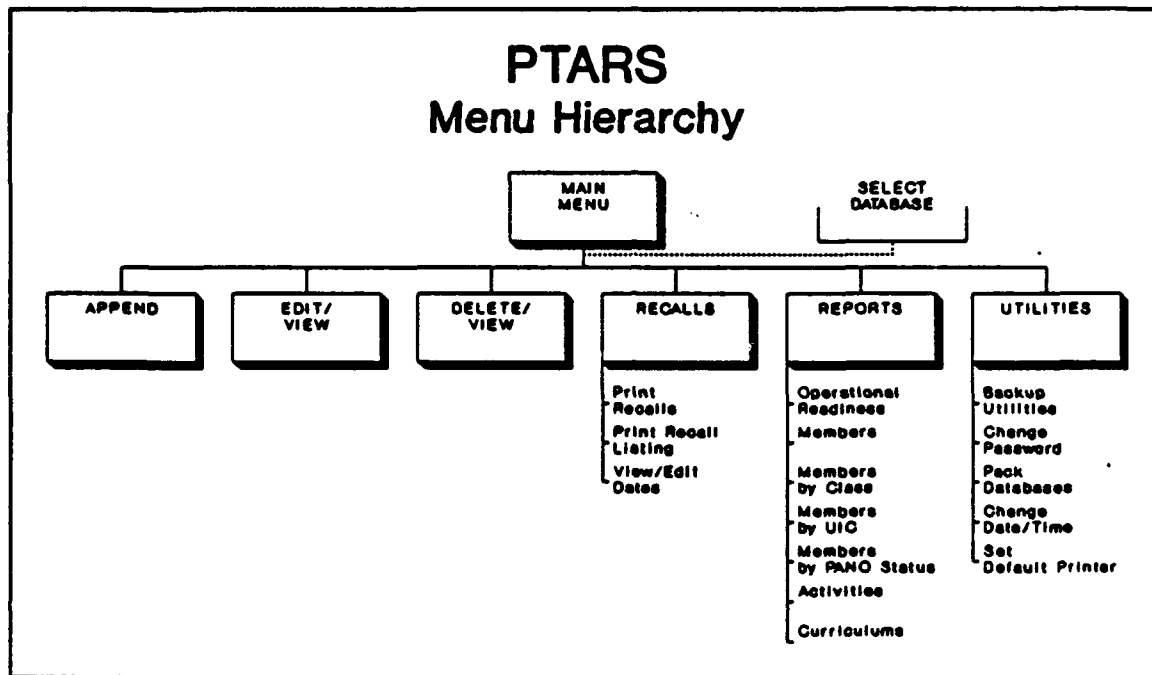


Figure 4. Menu Hierarchy

MEMBER ACTIVITY CURRICULUM DIRECTOR		11/28/92 12:00:00 am
P T A S M A I N M E N U		
<F1> for help <Alt+F1> for functions	0. Quit 1. Append 2. Edit/view 3. Delete/view 4. Recalls ... 5. reports ... 6. Select database 7. Utilities ...	
select : :		

Figure 5. Main Menu Screen

Record: 000013		<MEMBERS>		11/28/92 12:00:00 am
<F1> for Help Member's SSN 123-45-6789				
Last Name Doherty		First Name Janet		M.I. []
Rank/Rate LT	Service Branch USN	Last T2 Exam 11/21/90	Class 3	
Pano Status GRN				
UIC 01405		NPS Student Curriculum Number 030		SNC 1000
Dates of Previous Recall Letters Routed To Member				
Recall 1 11/21/91 MM/DD/YY	Recall 2 MM/DD/YY	Recall 3 MM/DD/YY	Recall 4 MM/DD/YY	
EDIT/VIEW: <E>dit <P>ind <G>ete <N>ext-record <P>rev-record <Return>				

Figure 6. MEMBER Edit/View Form

After establishing the menu hierarchy and obtaining user approval of report, form, recall letter, and screen prototypes, an integrated prototype of the application was developed. That is, a working model of the system was created but with incomplete

functionality [Ref. 3, 4]. End-user evaluations of the prototype's characteristics and operation were used to iteratively revise the model. This prototype was then expanded in functionality to become the final system. This approach was facilitated by Foxpro's project management capability for unifying and coordinating the separate elements of the application. Added advantage was obtained from the use of this approach in that end-users became intimately involved in the development process and actively influenced the look and functioning of the final system. Thus, by the time of implementation their expectations were satisfied and they were well-versed in the application's functioning.

Care was taken to establish consistency of function across modules with regard to form and menu design, messages, escape procedures, navigation keys, function-key use, and availability of on-line help. Moreover, as indicated in the object specifications (Appendix A), the range and format of data for most of the fields was carefully controlled.

IV. SYSTEM IMPLEMENTATION

System implementation was the final step of the development process. The primary objective was to build the fully functional physical application that satisfied the end-user. The physical database was constructed using a DBMS-specific methodology, Foxpro 2.0. It is compatible with the widely-used dBase DBMS language and has numerous language extensions. Moreover, as noted previously, the product provides a very efficient, windowed development environment that facilitates coding, compiling, running, and debugging from within an integrated interface.

During implementation, the prototype was expanded to include all modules fully integrated into an application with complete functionality. Appendix C, the User's Manual, provides documentation which details the final application's features and operations. Documented program code, procedure and token listings, and a token cross-reference listing are included in Appendix E.

Installation required converting the mainframe database and adding several data elements. Hence, the installation and transition to the new system took several days to complete. Primary user training was accomplished during the development process.

V. SUMMARY AND RECOMMENDATIONS

A. SUMMARY

The mainframe-based patient tracking and recall system was due for replacement. It was out-dated in its user interface, was unreliable to access, lacked adequate field validation checks, and required additional capabilities. The PTARS system designed and implemented during the course of this thesis addressed all of these deficiencies and included users actively in the development process. The system is user-friendly and includes all necessary functions internally to provide security, data integrity, and an intuitive operation.

B. RECOMMENDATIONS

During the development process much thought was given to anticipating the needs of end-users. On-line, context-sensitive help was provided for all operations and fields; and confirmations, messages, and prompts were built into all operations that affected the content of the database. Nevertheless, it is still incumbent upon the user to make choices and take actions to protect the data and maintain the quality of unrestricted character fields.

Data security will be only as good as the user's attention to it. The password must be protected, the system must not be left running unattended, and regular backups to floppy disk must be made and stored to safety. All of these activities are ultimately left

up to the discretion of the user. Proper training and careful reading of the User's Manual should enhance end-user adherence to recommended practice.

Finally, NRDC currently provides PC hardware and software support to branch clinics. Upon request, a PC technical expert will troubleshoot problems with BDCM computer resources. The necessity of PCs in the branch clinics is acknowledged and some standard software is provided for an integrated dental information system. Yet, clinics are not provided the resources to protect their systems. For example, no user training is conducted regarding routine machine or data maintenance or security. This could develop into a significant problem in the event of a large data loss. NRDC should consider providing all branch clinics with reasonably efficient backup software, disk maintenance and data recovery software utilities, and the training to use them effectively.

LIST OF REFERENCES

1. *Foxpro Developer's Guide*, Fox Software, Perrysburg, Ohio, 1991.
2. Kroenke, D. M. and Dolan, K.A., *Database Processing* (Third Edition), Science Research Associates, Inc., Chicago, Illinois, 1988.
3. Boar, B., *Application Prototyping: A Requirements Definition Strategy for the 80's*, John Wiley & Sons, New York, New York, 1984.
4. Senn, J. A., *Analysis and Design of Information Systems* (Second Edition), McGraw-Hill, New York, New York, 1989.

APPENDIX A: OBJECT SPECIFICATIONS

Object Definitions

MEMBER OBJECT

<u>Descriptive name</u>	<u>Domain name</u>
Social Security Number	SSN
Last Name	Last_name
First Name	First_name
Middle Initial	MI
Rank or Rate	Rank_rate
Service Branch	Branch
Last T2 Exam	Last_T2
Class Rating	Class
Pano X-ray Status	Pano
SMC or Department Code	SMC
Recall Letter 1 Date	Recall_1
Recall Letter 2 Date	Recall_2
Recall Letter 3 Date	Recall_3
Recall Letter 4 Date	Recall_4
ACTIVITY; ACTIVITY object	
CURRICULUM; CURRICULUM object	

ACTIVITY OBJECT

<u>Descriptive name</u>	<u>Domain name</u>
Unit Identification Code	UIC
Unit Acronym	Acronym
Activity Name	Act_name
Point-of-Contact	POC
MEMBER; MEMBER object; MV	

CURRICULUM OBJECT

<u>Descriptive name</u>	<u>Domain name</u>
Curriculum Number	Curr_num
Curriculum Name	Curr_name
Department Code	Dept_code
Phone Number	Phone_no
MEMBER; MEMBER object; MV	

Domain Definitions

Acronym:

Character (11)
Abbreviated activity name

Act_name:

Character (47)
Official abbreviated name of an NPS tenant command served by BDCM

Branch:

Character (4)
Abbreviation for member's service branch

Class:

Numeric (1), range 1-4
Class rating assigned by dentist to each member

Curr_name:

Character (46)
NPS curriculum name

Curr_num:

Character (3)
Unique NPS curriculum number code

Dept_code:

Character (2)
Curriculum office NPS department code

First_name:

Character (15)
Member's first name

Last_name:

Character (23)
Member's last name

Last_T2:

Date (8); Mask MM/DD/YY, where MM is month, DD is day, YY is year
Last T2 exam date

MI:

Character (1)
Member's middle initial

Pano:

Character (3)
Member's pano x-ray status

Rank_rate:

Character (5)

Member's rank or rate

Recall_1:

Date (8); Mask MM/DD/YY, where MM is month, DD is day, YY is year

Recall letter 1 date

Recall_2:

Date (8); Mask MM/DD/YY, where MM is month, DD is day, YY is year

Recall letter 2 date

Recall_3:

Date (8); Mask MM/DD/YY, where MM is month, DD is day, YY is year

Recall letter 3 date

Recall_4:

Date (8); Mask MM/DD/YY, where MM is month, DD is day, YY is year

Recall letter 4 date

SMC:

Character (4)

Member's student mail center number or staff department mail code

SSN:

Character (11); Mask NNN-NN-NNNN, where N are any digits

Unique member Social Security Number

UIC:

Character (6)

Unique Unit Identification Code of NPS tenant command

APPENDIX B: UPDATE, DISPLAY, AND CONTROL MECHANISMS

I. Update Mechanisms

A. Append/Edit MEMBER data

1. Inputs

- Initial member data received at physical check-in of member records to BDCM
- Member change data received on roster from PSD
- Member change data received on roster from Registrar
- MEMBER object instance from database
- ACTIVITY object instance from database
- CURRICULUM object instance from database
- System-date and time

2. Outputs

- New or modified MEMBER object instance in database
- Confirmation message on screen

3. Processing notes

- This function used for both new and current members
- All initial member data manually entered after review of member's dental record
- Student SMC number may not be available initially

4. Volume

- 225 Jun; 75 Feb/Jul; 250 Mar/Sep/Dec
- Seven per week on average after quarter start
- 275 edits per week on average

5. Frequency

- Six times per year for large batch; otherwise daily

B. Delete MEMBER data

1. Inputs

- Member takes physical custody of dental records upon detachment
- MEMBER objects in database

2. Outputs

- Confirmation notice on screen

3. Processing notes

- Backups of MEMBER data should be made prior to processing a batch of deletions

4. Volume

- 250 at end of each academic quarter
- Seven per week on average after quarter end

5. Frequency

- Four times per year for large batch; otherwise daily

C. Append/Edit ACTIVITY data

1. Inputs

- Activity data change from Personnel Support Detachment (PSD)
- ACTIVITY object instance from database

2. Outputs

- New or modified ACTIVITY object instance in database
- Confirmation message on screen

3. Processing notes

- This function will be seldom used since it will be triggered by the addition or modification of a generally stable client organization
- This function used for both new and current activities
- 4. Volume
 - Variable, approximately one instance every two years on the average
- 5. Frequency
 - Variable, approximately once every two years
- D. Delete ACTIVITY data
 1. Inputs
 - Activity data change from Personnel Support Detachment (PSD)
 - ACTIVITY object instance from database
 2. Outputs
 - Confirmation notice on screen
 3. Processing notes
 - This function will be seldom used since it will be triggered by the elimination of a generally stable client organization
 - Backup of ACTIVITY data should be made prior to deletion
 4. Volume
 - Variable, approximately one instance every four years on the average
 5. Frequency
 - Variable, approximately once every four years
- E. Append/Edit CURRICULUM data
 1. Inputs
 - Curriculum data change from Registrar
 - CURRICULUM object instance from database
 2. Outputs
 - New or modified CURRICULUM object instance
 - Confirmation message on screen
 3. Processing notes
 - This function will be seldom used since it will be triggered by the addition or modification of generally stable curriculums
 - This function used for both new and current curriculums
 4. Volume
 - Variable, approximately two instances per year on the average
 5. Frequency
 - Variable, approximately twice per year prior to new student class
- F. Delete CURRICULUM data
 1. Inputs
 - Curriculum data change from Registrar
 - CURRICULUM object instance from database
 2. Outputs
 - Confirmation message on screen
 3. Processing notes
 - This function will be seldom used since it will be triggered by the elimination of a generally stable curriculum
 - Backup of curriculum data should be made prior to deletion
 4. Volume
 - Variable, approximately one instance every five years on the average
 5. Frequency
 - Variable, approximately once every five years

II. Display Mechanisms

A. Query on MEMBER

1. Output description
 - Form showing all data for a member to screen
2. Source data
 - MEMBER object
 - Member SSN or name keyed by user
3. Processing notes
 - Used by Administrative Petty Officer or Receptionist
4. Volume
 - Five per week
5. Frequency
 - Daily

B. Recall letter 1

1. Output description
 - Memorandum mailed to member
 - New or modified MEMBER object instance in database
2. Source data
 - MEMBER object
 - System-date
3. Processing notes
 - This process is initiated from a menu by the user. It creates recall letter one for all members whose last T2 exam was more than 10 months prior to the system-date and for whom recall letter one was not previously produced
 - This process inserts system-date as Recall-Ltr1-Date when conditions above exist
4. Volume
 - 160 monthly
5. Frequency
 - End of every month

C. Recall letter 2

1. Output description
 - Memorandum mailed to member
 - New or modified MEMBER object instance in database
2. Source data
 - MEMBER object
 - System-date
3. Processing notes
 - This process is initiated from a menu by the user. It creates recall letter two for all members whose last T2 exam was more than 11 months prior to the system-date, for whom recall letter one was produced, and for whom recall letter two was not previously produced
 - This process inserts system-date as Recall-Ltr2-Date when conditions above exist
4. Volume
 - 100 monthly
5. Frequency
 - End of every month

D. Recall letter 3

1. Output description
 - Letter mailed to member
 - New or modified MEMBER object instance in database

2. Source data
 - MEMBER object
 - System-date
 3. Processing notes
 - This process is initiated from a menu by the user. It produces recall letter three for all members whose last T2 exam was more than 12 months prior to the system-date, for whom recall letter two was produced, and for whom recall letter three was not previously produced
 - This process inserts system-date as Recall-Ltr2-Date when conditions above exist
 4. Volume
 - 30 monthly
 5. Frequency
 - End of every month
- E. Recall letter 4**
1. Output description
 - Letter mailed to Curriculum Officer for student members and Activity POC for all other members
 - New or modified MEMBER object instance in database
 2. Source data
 - MEMBER object
 - ACTIVITY object
 - CURRICULUM object
 - System-date
 3. Processing notes
 - This process is initiated from a menu by the user. It produces recall letter four for all members whose last T2 exam was more than 13 months prior to the system-date, for whom recall letter three was produced, and for whom recall letter four was not previously produced
 - This process inserts system-date as Recall-Ltr4-Date when conditions above exist
 - Student members uniquely belong to UIC 31405
 4. Volume
 - 3 monthly
 5. Frequency
 - End of every month
- F. Operational Readiness Report**
1. Output description
 - Screen display of summary count and percent of patient load for all members by class
 - Screen display of summary count and percent of all patients in Pano x-ray status categories
 2. Source data
 - MEMBER object
 - System-date
 3. Processing notes
 - This process is initiated from a menu by the user. It creates a summary report of the number and percentage of all members in each of the four different dental classes. The report can be optionally printed.
 4. Volume
 - 1 monthly
 5. Frequency
 - End of every month

G. Member Roster

1. Output description
 - Printed roster of all members sorted alphabetically or by SSN
2. Source data
 - MEMBER object
 - System-date
3. Processing notes
 - This process is initiated from a menu by the user.
4. Volume
 - 1 monthly
5. Frequency
 - End of every month

H. Member Roster by Class

1. Output description
 - Printed roster of members sorted alphabetically or by SSN; available for all or for specified class
2. Source data
 - MEMBER object
 - System-date
3. Processing notes
 - This process is initiated from a menu by the user.
4. Volume
 - 1 monthly
5. Frequency
 - End of every month

I. Member Roster by UIC

1. Output description
 - Printed roster of all members sorted alphabetically or by SSN
2. Source data
 - MEMBER object
 - System-date
3. Processing notes
 - This process is initiated from a menu by the user.
4. Volume
 - 1 monthly
5. Frequency
 - End of every month

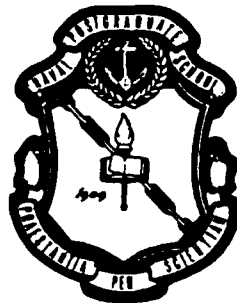
J. Member Roster by Pano X-ray status

1. Output description
 - Printed roster of members sorted alphabetically or by SSN; available for all members or for specified Pano status
2. Source data
 - MEMBER object
 - System-date
3. Processing notes
 - This process is initiated from a menu by the user.
4. Volume
 - 1 monthly
5. Frequency

- End of every month
- K. Activities Listing
 1. Output description
 - Printed roster of Activities sorted by UIC
 2. Source data
 - ACTIVITY object
 - System-date
 3. Processing notes
 - This process is initiated from a menu by the user.
 4. Volume
 - 1 monthly
 5. Frequency
 - End of every month
- L. Curriculums Listing
 1. Output description
 - Printed roster of Curriculums sorted by curriculum number
 2. Source data
 - CURRICULUM object
 - System-date
 3. Processing notes
 - This process is initiated from a menu by the user.
 4. Volume
 - 1 monthly
 5. Frequency
 - End of every month
- III. Control Mechanisms
 - A. Access to the system is protected by a password known only by the Administrative Petty Officer and the Receptionist
 - B. The system is limited to use by one person at a time.
 - C. Monthly validations of various member data are accomplished using rosters obtained from PSD and the Registrar

APPENDIX C: USER'S MANUAL

NPS DENTAL CLINIC PATIENT TRACKING & RECALL SYSTEM



Timothy P. Steele
LCDR, MSC, USN
Naval Postgraduate School

CONTENTS

<i>Introduction</i>	<i>1</i>
Features overview	1
Typographical conventions	2
 <i>Chapter 1 Getting started</i>	 <i>3</i>
System requirements	3
Installation	4
Installation overview	4
Installing PTARS	4
Re-installing PTARS	5
Starting PTARS	6
Updating member CLASS	6
Security	6
Creating a start-up batch file	7
 <i>Chapter 2 Getting around</i>	 <i>9</i>
Navigation/Activation keys	9
Function keys	9
Using on-line Help	10
Menus overview	11
Main Menu	12
Selecting a database	12
Exiting PTARS	13
 <i>Chapter 3 Database updating</i>	 <i>15</i>
Appending records	15
Editing/viewing records	16
Deleting/viewing records	19
 <i>Chapter 4 Recalls</i>	 <i>21</i>
Printing recalls	22
Printing recalls lists	27
Viewing/editing recall dates	27

<i>Chapter 5 Reports</i>	<i>29</i>
Operational readiness	29
Rosters	30
<i>Chapter 6 Utilities</i>	<i>33</i>
Backup utilities	33
Backing up database(s)	34
Listing files	35
Formatting a floppy disk	35
Restoring backup(s)	35
Changing the password	36
Packing the database(s)	37
Changing the date or time	37
Selecting the default printer	37
<i>Appendix A Optimizing PTARS</i>	<i>39</i>
Disk defrag/compress	39
Memory	39
Conventional memory	39
Expanded memory	40
Extended memory	40
Config.sys	41
Pack the database(s)	41
<i>Appendix B File definitions</i>	<i>43</i>
<i>Appendix C Database specifications</i>	<i>45</i>

Introduction

Welcome to the Naval Postgraduate School Dental Clinic (NPSDC) Patient Tracking and Recall System (PTARS). This database application was developed to provide an in-house, PC-based capability for NPSDC to maintain the patient data necessary to track and recall patients for annual exams and to produce operational readiness statistics. The system provides fast, dependable access to member records and automates the recall process.

PTARS was designed based on extensive interviews with the NPSDC staff to identify clinic requirements. Prototypes of the system were iteratively developed and demonstrated to ensure that clinic end-users were fully satisfied with the final system specifications. A primary design objective was to develop an application that was very user-friendly. Hence, you will be able to use the system productively with only a minimum amount of familiarization time. Please take a few minutes now to review this User's Manual.

Features overview

PTARS employs four database files that are directly accessible to user modification: MEMBERS.DBF, ACTIVITY.DBF, CURRICUL.DBF, and DIRECTOR.DBF. MEMBERS.DBF contains the information pertinent to each patient. The files ACTIVITY.DBF and CURRICUL.DBF are used for locating patients and for printing recall letter addresses. ACTIVITY.DBF contains information specific to each UIC served by NPSDC and CURRICUL.DBF contains information specific to each NPS student curriculum. DIRECTOR.DBF contains the name of the current NPSDC Director for placement into the signature line of recall letters.

The application provides a series of simple menus and sub-menus from which to choose its various options. You will be able to view, append, update, and delete Member, Activity, Curriculum, and Director data using screen forms with built-in error-checking routines for each action or data entry. You will also be able to print special reports, sorted database listings, and recall letters. Additional features include but are not limited to:

- Password controlled access to PTARS; changeable password
- Automatic updating of member treatment class status

- Context-sensitive help
- System information display
- Continuous date and time display
- Automatic determination of appropriate recall letters to print
- Backup database(s) to hard disk or floppy disk; restore backup(s)
- Format floppy disk from within application
- List files on hard disk or floppy disk
- Automatic reminders for database backup (if more than one month since last backup) and database pack (if more than 10% of records marked for deletion)

Typographical conventions

The following typographical conventions are used in this manual:

Input Anything that you type is in the Courier typeface, for example,
a:\setup <Enter>

Keys Keys to be pressed are represented like this:
<Esc> <Enter> <F1> {C}

Press both keys simultaneously when a "+" symbol is present, as in:
<Alt+F1>

Direction Cursor movement keys are indicated as:
<PgUp> <PgDn> <Arrows>



Getting started

This chapter contains all the information you need to install and run PTARS. It also discusses the various settings that you can change.

It contains the following sections:

- System requirements
- Installation
- Starting PTARS
- Creating a batch file

System requirements

PTARS requires the following hardware and software:

- An IBM compatible computer with at least 512K of random access memory (RAM) (640K of RAM strongly recommended)
- One floppy disk and one hard disk drive (with at least 3 megabytes of space available)
- Version 2.0 or later of DOS
- A CONFIG.SYS file in your root directory with a Files=25 (or greater) statement
- An EGA or VGA video adapter
- An Epson E/F/J/RX/LQ compatible or IBM Proprinter compatible dot-matrix printer

Additional requirements:

- To take advantage of Expanded memory support, you need an expanded memory card that is hardware and software compatible with the Lotus-Intel-Microsoft standard 4.0 or later (LIM 4.0 EMS). If you have an Intel 80386 or 80486 processor you can also use extended memory and a software expanded memory emulator program. PTARS can use 64K

of expanded memory as additional general purpose memory and any remaining expanded memory to speed up file I/O.

- If expanded memory is not available but the computer has extended memory, PTARS can be configured during installation to use 512K of the available extended memory for a disk cache to speed up file I/O.
- Double-copy paper to automatically make copies of recall letters. Since a copy of Recall 3 is identified as an enclosure to Recall 4, a copy of Recall 3 should be available before routing Recall 4. An alternative to double-copy paper would be making a copy of all Recall 3 letters after printing; then filing them in the event a Recall 4 was necessary for the same individual(s).

Installation

Installation overview

You have been provided with four numbered floppy disks. Disks 1 to 3 contain the files necessary to install and run PTARS. Disk 4 contains the initial database files that were current at the time of program delivery (i.e., MEMBERS.DBF, ACTIVITY.DBF, CURRICUL.DBF, and DIRECTOR.DBF). There are two steps to installing PTARS:

- **Make a backup and install the program.** Before you do anything else, copy the original disks and store them in a safe place. Then, use your copies of the original disks and run the Setup program to install PTARS on your hard disk.
- **Choose the default printer.** Before you print for the first time, you should select the default printer emulation from the Utilities Menu.

Installing PTARS

Refer to your computer's documentation (or ask your local computer guru) to determine whether your computer has expanded memory, disk caching hardware or software, and/or extended memory. You will be queried during the installation process regarding your computer's configuration. Note that you need at least 3 megabytes of available hard disk space before you begin.

One cautionary note before beginning your installation. PTARS was designed to run using only one computer at a time. Although in the future it may be tempting to install PTARS on a second computer, **avoid installing PTARS on more than one computer.** Because the separate installations can not communicate, there is no built-in, guaranteed way for the separate databases to maintain the same up-to-date data. Although you could

theoretically transfer data using floppy disks, almost assuredly over time some data would exist in one machine but not the other, and vice-versa.

The steps for installing PTARS are as follows:

1. Insert the PTARS disk #1 in drive A.
2. At the DOS prompt, type `a:\setup`. The Setup program will start.
3. When prompted by Setup, specify the disk where you want to install PTARS (e.g., c). Setup creates the subdirectory "\PTARS" on the hard disk specified and copies the program files and initial database files to it. Setup prompts you to insert each disk when necessary.
4. After copying, assembling, and un-compressing all the files from the installation disks, Setup queries whether your computer has expanded memory and/or a disk cache. Respond `y` or `n`, as appropriate. If you respond negatively, Setup queries whether you have extended memory. Again, respond as appropriate. This process determines how PTARS is configured for start-up.
5. When the installation is complete, Setup presents a screen with installation notes. Read the notes. Setup then queries whether you want to start PTARS. If you respond affirmatively, PTARS loads immediately.
6. Before printing from PTARS for the first time, select the default printer from the Utilities Menu. Refer to your printer's documentation to determine which emulation (Epson E/F/J/RX/LQ or IBM Proprinter) your printer uses. The default printer emulation is initially Epson.
7. Align the paper in your printer. Test the margin adjustments of your paper by printing the Operational Readiness Report from the Reports Menu. The top of your paper should be set in your printer so that one blank line exists at the top of the printed report. Likewise, the paper should be set so that one blank space exists to the left of the header statement "FOR OFFICIAL USE ONLY". If your paper is adjusted in the printer to satisfy these conditions, all printing from PTARS will be formatted properly.

Re-installing PTARS

There are two instances when you may want to re-install PTARS: 1) when there is some problem with any of the program files or 2) the computer has been modified with regard to expanded memory, a disk cache, or extended memory.

The re-install process is exactly the same as the initial installation with two exceptions. Setup attempts to determine if PTARS has been installed previously. If Setup detects that this is a re-installation you will be presented with a listing of existing database files in the "\PTARS" subdirectory and a re-installation note on screen. You can elect to continue or quit the re-installation at this time. If you elect to continue, you will be queried regarding which, if any, of the initial database files you may want to re-install. Note that if you have been using PTARS for any period of time you will probably elect not to re-install any of the initial database files. This is because they will be out of date. Use the "Restore backup(s)" option in the Backup Utilities Menu to restore your most recent data from floppy disk, if necessary.

Starting PTARS

If necessary, change to the "\PTARS" subdirectory on the drive where you installed PTARS (e.g., at the DOS prompt, type `cd \ptars`). Then type `ptars` and press <Enter>. A logo screen will appear and pause briefly. (You can eliminate the pause by pressing any key during the logo display.) Following the pause, the PTARS Access Screen appears and you are requested to enter the password. The initial password to use is "zyxabc". You will be given up to three attempts to enter the correct password. After a third failure, PTARS shuts down.

After correctly entering the password, you will be queried whether the system date and time are correct. If you respond negatively, you are prompted to enter the correct date and/or time according to the format displayed.

Updating member CLASS

When the system date and time are correct, PTARS updates each member's dental CLASS rating. CLASS ratings of "1", "2", or "3" are assigned to members by an examining dentist. A CLASS rating of "4" indicates simply that the member is due for his/her mandatory annual dental examination. PTARS scans each record in the MEMBERS.DBF database file and checks to see if the LAST_T2 date is more than 12 months prior to the current system date. If so, it replaces the existing CLASS rating with "4". After updating member CLASS, PTARS displays the Main Menu.

Security

It is *strongly* recommended that the default password be changed after installing the PTARS program. Your data is extremely important. Inadvertent or deliberate tampering with your data by an unauthorized person can only be prevented by taking security precautions (*and* taking them seriously). In addition to keeping a secure password, it is very important that you do not leave PTARS running unattended. The temptation to do

so, however, will be great. Making regular backups of your data to floppy disk and putting them in a safe place is probably the best way to ensure against loss of data due to any cause.

Creating a start-up batch file

A DOS batch file can be created that will enable you to start PTARS at any time regardless of what directory you may currently be in, without having to type additional DOS commands. Use a text editor (or a word processor mode that does not insert hidden formatting codes) to create a batch file like the example below. The example batch file assumes that you have installed PTARS to the C drive.

```
C:
CD\PTARS
PTARS
```

When the batch file is complete, name it "PTARS.BAT" and place it in your root directory or any directory that is in your DOS path. Henceforth, simply type PTARS to load the PTARS program from any location. See any DOS reference for terminology assistance.



Getting around

This chapter contains the information you need to navigate the menus, forms, and fields of PTARS. It covers:

- Navigation/Action keys
- Function keys
- Using on-line Help
- Menu overview
- Main menu
- Exiting PTARS

Navigation/Action keys

Each PTARS screen shows the available commands or options. The following keys let you move around a screen, between or within fields, or perform various generic actions:

<u>Press:</u>	<u>To:</u>
<Arrows>	move up or down one line; move left or right one character or screen
<PgUp>/<PgDn>	display previous or next screen of a multiple records screen
<Home>	move to the start of a multiple records screen or input field
<End>	move to the end of a multiple records screen or input field
<Backspace>	delete character to left; move back one input field
<Return>	accept an entry; move to next field
<Insert>	toggle insert/typeover mode
	delete a character or record
<Esc>	cancel the current task

Function keys

Function keys <F1> through <F4> are assigned specific actions as described below. Pressing <Alt+F1> (pressing both keys simultaneously) at any time presents a popup reminder list of the functions available. Functions are activated by pressing the assigned

function key or selecting the function from the popup list. Functions are available at all times, regardless of the current activity. The functions available are:

- Help <F1>** Context-sensitive help window. See the next section, "Using on-line Help".
- Calendar <F2>** Pops-up a monthly Calendar display. It shows the current month in row and column form with the current day highlighted. You can move forward or backward in months by pressing <PgUp> or <PgDn>, and in years by pressing <Ctrl-PgUp> or <Ctrl-PgDn>, respectively. To get back to the current date, press {T}. As with almost all operations in PTARS, press <Esc> to exit.
- Poptris <F3>** A Tetris-like diversion. The object is to fill the rectangular field with the falling objects from the bottom up without leaving any open spaces. Use the numeric keypad arrows to position falling objects within the field. Pressing the number 5 key causes the shape of the falling object to change. It can be pressed repeatedly to cycle the shape of the falling object. Pressing the ↓ arrow key causes the falling object to land immediately, hence, speeding up the activity. Additional commands/functions are displayed on-screen. Poptris code has been included by permission of Gerald F. Garcia.
- About PTARS <F4>** A window containing system environment information. It includes information on the operating system, computer hardware, RAM, and disk space.

Using on-line Help

On-line Help is available at all times by pressing <F1>. Help is "context-sensitive" since the Help Topic details initially displayed apply to the current PTARS screen. When the † symbol is present in the topic box, you can scroll down or up through the Help window to view additional text using the ↓ or ↑ arrow keys.

As shown in Figure 1, the Help window consists of two panels—one lists Help Topics and the other displays details about each Topic. At the bottom of the Topics list all fields in the various databases are identified with a " ~ " prefix and are defined. Commands available in Help are described below:

- **Topics** • This provides a list of Topics available in the Help system. To select a Topic you can: 1) use the arrow keys to scroll through the Topics

to find the one you want or 2) type a letter or series of letters to select the first Topic beginning with those letter(s). To see details about a Topic, select the Topic and press <Return>.

- <Next>** This selects Help details for the next Topic in the help file list.
- <Previous>** This selects Help details for the prior Topic in the help file list.
- <Look up>** Enables you to find the closest Topic match to a word that you highlight within Help details. When you highlight a word in the Help text, the <Look up> function becomes available. You highlight a word by placing the cursor at the first letter in a word using the ← and → arrow keys. Then press <Shift+→> to highlight the word.
- See Also** This lists Help Topics that may be of interest related to the current Topic.
- <Esc>** Exits Help.

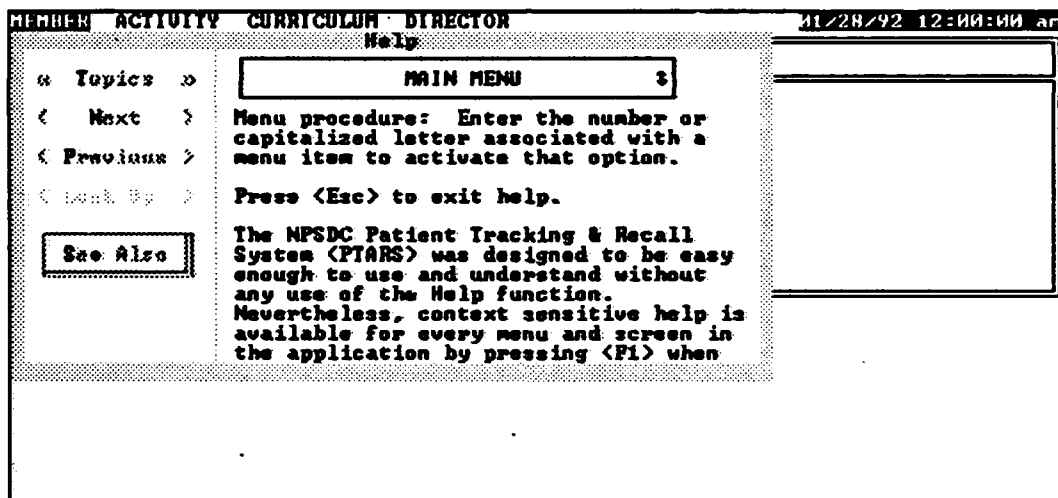


Figure 1. Help window appearing over Main Menu.

Menus overview

PTARS is a "menu-driven" system. All operations are activated by selecting options from full-screen menus, from sub-menus located at the bottom of the screen, or from pop-up menus. An option can be selected on all menus by pressing the highlighted (and capitalized) letter associated with the option. On full-screen menus the number of the menu option will also activate the option. On popup menus you can also scroll to the

desired option and press <Enter> to activate the option. Figure 2 below provides a graphical view of the major menu operations within PTARS.

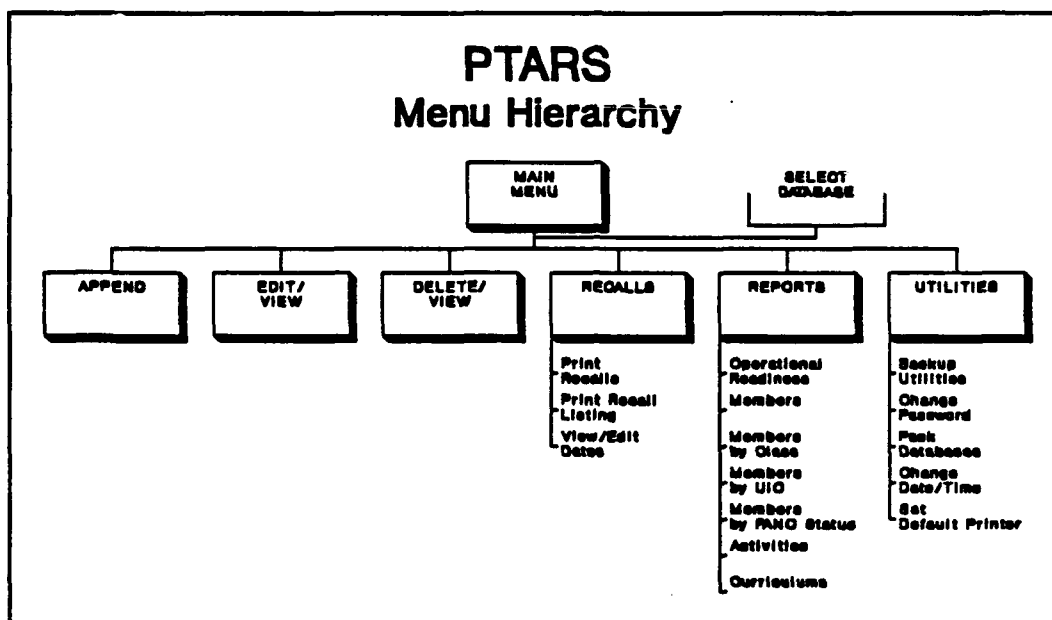


Figure 2. PTARS menu hierarchy.

Main Menu

After updating member CLASS, PTARS displays the Main Menu, as shown in Figure 3 on the next page. Each screen in PTARS continuously displays the system date and time in the upper right corner.

Selecting a database

In the upper left corner of the Main Menu the four databases of interest are identified. The active database is highlighted and blinking. By default, Members is the initially active database. The Main Menu options "Append", "Edit/view", and "Delete/view" apply only to the active database. A different database can be made active by choosing the option, "Select database", and then selecting the desired database from the popup selection list.

Exiting PTARS is discussed in the following sub-section. The remaining Main Menu options are covered in detail in subsequent chapters.

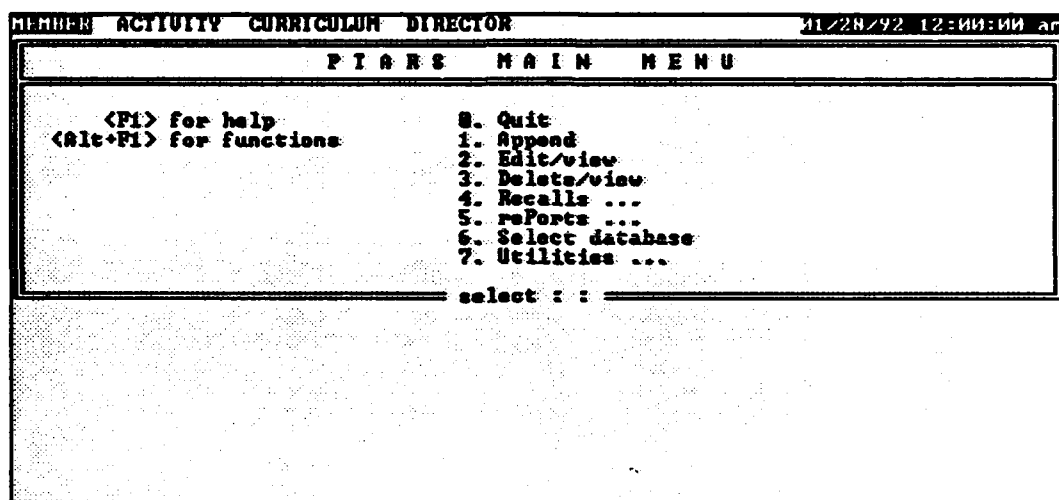


Figure 3. PTARS Main Menu.

Exiting PTARS

It is very important that you exit (quit) PTARS using the Main Menu "Quit" option. If you reboot the computer with <Ctrl+Alt+Del> or shut the power off without first quitting properly, any databases which are in use at the time are vulnerable to damage. Hence, it is essential that you exit only by using the Main Menu "Quit" option.

When quitting, several things happen before the system shuts down. First, PTARS checks to see if it has been more than one month since MEMBERS.DBF has been backed-up to a floppy disk. If so, a reminder message pops-up on screen and you are given the option to perform a backup. If you choose to perform a backup, PTARS switches to the Backup Utilities Menu where you can perform your backup operations and quit when you are finished.

Next, PTARS checks to see if more than 10% of the records in MEMBERS.DBF have been marked for deletion. If so, a message pops-up and you are queried whether you want to "pack" the database. See Chapter 6 for details on packing the database.

Finally, before shutting down, PTARS queries whether you want to back-up the databases to the hard disk. This allows you to save a second copy of your session's work on the hard disk. See Chapter 6 for further coverage of backing-up.



Database updating

This chapter contains the information necessary for updating the databases by appending, editing, or deleting records. Several example screens will be shown to preview the look of PTARS when working with its various modes.

Appending Records

Select the "Append" option from the Main Menu to append records. Appending records involves adding new records to a database. New records can be appended to MEMBERS.DBF, ACTIVITY.DBF, and CURRICUL.DBF. Unlike the foregoing three databases, DIRECTOR.DBF contains only one record. This record contains the name of the current clinic director and must always be present. Hence, it can only be edited.

As discussed in Chapter 2, PTARS starts by default with MEMBERS.DBF as the active database. You can select a different database from the Main Menu option "Select Database". To append records, press {A} from the Main Menu. A blank form will appear, ready to receive new data. You can abort from appending by pressing <Esc> and the record will not be saved.

When appending a record almost all fields require an entry. If a field is left blank and <Enter> is pressed, either a warning will appear stating that an entry is required or a popup list of valid field entries will appear. When a popup list appears, scroll to the desired field entry and press <Enter> to insert the entry into the form. Figure 4 shows the Append data entry form for Members.

If the member is an NPS student (i.e., UIC = "31405"), a field for Curriculum Number and SMC (Student Mail Center number) will appear following UIC. Alternatively, if the member is a non-student, a field for Activity Department Code will appear. Enter data into these fields as appropriate.

As a reminder, if you have any doubts regarding the contents of a certain field, be sure to utilize the Help function. Each field in all the databases is described in the Topics section of Help. Field names are prefixed with the "~" symbol and are located at the bottom of the scrollable Help Topics list.

```

Record: 001001      <MEMBERS>      =BLANK=      11/28/92 12:00:00 am
<F1> for Help
Member's SSN: [REDACTED]
Last Name: [REDACTED]      First Name: [REDACTED]      M.I.: [REDACTED]
Rank/Rate: [REDACTED]      Service Branch: [REDACTED]      Last T2 Exam: [REDACTED]      Class: [REDACTED]
Pave Status: [REDACTED]      MM/DD/YY
UIC: [REDACTED]
APPEND: Press <Esc> to abort

```

Figure 4. Append record form for Members in append mode.

After completing the data entry for a new record or after aborting an append, a sub-menu will appear at the bottom of the screen with several options:

```
<Return>:add-another      {E}dit      {F}inished      <Del>
```

Pressing <Return> brings up a blank form for appending another new record. Pressing {E}dit allows editing of the currently displayed record. Selecting {F}inished appends the record (if completely entered and not marked for deletion) and returns you to the Main Menu. Pressing toggles between deleting and saving the current record. For example, assume you discover an error in a record that you have just entered and you want to delete it so that you can get the correct info later and re-enter it. Press to delete it. This allows you to then press <Enter> to keep entering new records without saving the erroneous one. When a record is "Deleted" a status indicator at the top of the screen says " *Deleted* ". In the next section, forms for editing each of the databases will be displayed. The forms look very similar to the forms for appending data.

Editing/viewing records

The "Edit/view" option of the Main Menu allows you to edit records in the active database. Editing is performed with one record displayed at a time. This option also provides a means to view all the data in a record of the active database on a single screen.

As can be seen in Figure 5, the Edit/view form for Members is very similar to the Append form for Members. The difference is that the sub-menu of options available is more extensive and that additional information is shown on the form. In the lower

portion of the Edit Members form the dates of recall letters previously printed to the Member are displayed. This information can not be edited from the Edit/view screen but is for viewing only. Editing of recall dates will be discussed in Chapter 4.

Record: 000013		<MEMBERS>		11/28/92 12:00:00 am													
<F1> for Help																	
Member's SSN 123-45-6789																	
Last Name Doherty		First Name Janet		M.I. []													
Rank/Rate []		Service Branch []		Last T2 Exam 11/21/91													
Phone Status []				MM/DD/YY													
UIC 01495		NPS Student Curriculum Number 000		SMC 0000													
<p align="center">Dates of Previous Recall Letters Routed To Member</p> <table border="1"> <thead> <tr> <th>Recall 1</th> <th>Recall 2</th> <th>Recall 3</th> <th>Recall 4</th> </tr> </thead> <tbody> <tr> <td>11/21/91</td> <td></td> <td></td> <td></td> </tr> <tr> <td>MM/DD/YY</td> <td>MM/DD/YY</td> <td>MM/DD/YY</td> <td>MM/DD/YY</td> </tr> </tbody> </table>						Recall 1	Recall 2	Recall 3	Recall 4	11/21/91				MM/DD/YY	MM/DD/YY	MM/DD/YY	MM/DD/YY
Recall 1	Recall 2	Recall 3	Recall 4														
11/21/91																	
MM/DD/YY	MM/DD/YY	MM/DD/YY	MM/DD/YY														
EDIT/VIEW: <E>dit <F>ind <G>oto <N>ext-record <P>rev-record <Return>																	

Figure 5. Edit/view form for Members.

The actions of each of the Edit/view sub-menu commands are as follows:

- {E}dit** {E}dit returns the cursor to the record displayed for further changes; the sub-menu options are not available. Entry of data in edit mode is the same as when appending a new record. Pressing <Esc> when in edit mode aborts the edit and the original data is displayed.
- {F}ind** When editing Members, {F}ind enables you to select a specific record by specifying a member's SSN or name. (Part of a name or even a single letter can be used. PTARS will seek the first instance of whatever you type. Specifying the person's full name provides an exact match.) Since a name is not necessarily unique, the first occurrence of a match is shown on the screen. Specify a UIC when editing an Activity and a Curriculum Number when editing a Curriculum.
- {G}oto** {G}oto enables you to go to a specific record number in the database. Record numbers are listed in the top left of the edit screen.
- {N}ext** {N}ext-record brings up the next record. (By default, records are sorted by SSN. When a record is "found" by name, the database is sorted by last-name + first-name.)

{P}rev {P}rev-record brings up the prior record. Records are sorted as noted above.

Figures 6 and 7 display the Edit/view forms for the Activity and Curriculum databases, respectively. The Append forms for these databases look the same with the exception of the sub-menus.

Figure 6. Edit/view form for Activity.

Figure 7. Edit/view form for Curriculum.

Figure 8 shows the Edit/view form for Director. As discussed, Director can not be appended to or deleted. Hence, you are automatically in edit mode when you select this form. This is because there is only one clinic Director record and it must always contain a signature name.

Figure 8. Edit/view form for Director.

Deleting/viewing records

Select the "Delete/view" option from the Main Menu to delete record(s) or to view multiple records on one screen. When a record is marked for deletion, an "*" appears to the left of the record. Figure 9 shows the Delete/view screen for Members. The Delete/view screens for Activities and for Curriculumms operate in the same fashion as for Members. The only difference is the fields displayed on screen. When the "==" appears in the upper right of the screen on the field column header line, additional fields exist for viewing. Pressing the right arrow key will pan the screen right to view the additional fields. Press the left arrow key to pan back to the left.

When a record is "Deleted" on the Delete/view screen, the record is not actually physically removed from the database; it is simply "marked" for deletion. This means that the record can still be recovered if you decide later that you want to "undelete" it. See the discussion of the action below for its operation. To permanently (physically) remove record(s) from a database, the database must be "packed". Chapter 6, "Utilities", provides further discussion of packing the database.

```
File: MEMBERS.DBF
11/28/92 12:00:00 am
(P1) for help
DELETE/VIEW RECORDS

Records# SSN LAST NAME FIRST NAME MI RANK/RATE -->
1 000-00-0002 Merman Ethel LT
2 001-00-0003 Miserables Les LT
3 012-12-1212 Andrews Antoine R LT
4 012-93-8475 Adams John Q ENS
5 022-20-0000 Marcos Iselda LTJG
6 023-12-3122 Wine Dandelion ENS
7 039-39-2828 Lincoln Mark ENS
8 076-35-3746 Bloch Robert O LCDR
9 083-82-7827 Mathews Mark M LTJG
10 089-64-3585 Morrison Larry R LTJG
11 102-20-0000 Mastroiani Marcelle O LT
12 109-20-3746 Laverne Shirley DT2
13 123-45-6789 Doherty Janet I LT
14 123-50-9213 Madison James F CAPT
15 123-92-9292 Alexander Hamilton A ENS
16 133-21-3838 Zamfir Jonathan L SGT
17 134-15-6789 Sullivan Karen I LTJG
18 138-38-3838 Mears Rick LT

DELETE/VIEW: (F)ind (G)oto (M)ode <Arrows> <PgDn> <PgUp> <Del> <Return>
```

Figure 9. Delete/view screen for Members.

The actions of each of the Delete/view sub-menu commands are as follows:

- {F}ind** Performs the same action as with the Edit/view form.
- {G}oto** Performs the same action as with the Edit/view form.
- {M}ode** {M}ode pops-up a selection of display modes for EGA and VGA video adapters: EGA, 25 or 43 lines; VGA, 25 or 50 lines. More lines on a screen are useful when deleting many members in a single session.
- <Arrows>** <Arrows> refers to the direction keys for moving sideways to view panels of fields or up and down to place the cursor on different records.
- <PgDn>** <PgDn> takes you to the next screen of consecutive records.
- <PgUp>** <PgUp> takes you to the prior screen of consecutive records.
- ** toggles a deletion marker for a record. To mark a record for deletion, move the cursor to the record and press . When a record is marked for deletion an "*" appears to the left of the record. To unmark a deletion, make sure the cursor is on the correct marked record and press again.
- <Return>** <Return> brings you back to the Main Menu.

Recalls

Recalls are the primary reason for the existence of PTARS. Each of the Service Branches require that members receive an annual dental examination (a "T2" exam), regardless of any prior need for dental treatment. Hence, members require notification prior to expiration of the 12 month period since their last exam (T2 or otherwise). PTARS automates the recall (notification) process by printing initial recall letters (Recall 1) and, if necessary, up to three follow-up letters (Recall 2 to Recall 4) to members.

The following topics are covered in this chapter:

- Printing recalls
- Printing recall lists
- Viewing/editing recall dates

The Recalls Menu is accessed by selecting the "Recalls" option from the Main Menu. As shown in Figure 10, three options are available from the Recalls Menu. Each of these options will be discussed in detail in this chapter.

```
01/28/92 12:00:00 an
PTARS RECALLS MENU

<F1> for help
<Alt+F1> for functions

0. Exit to main menu
1. Print recalls
2. pRint most recent recall list
3. View/edit re ll dates

select : :
```

Figure 10. Recalls Menu.

Printing recalls

Select "Print recalls" from the Recalls Menu to immediately start printing recall letters. Note that PTARS always backs-up the current MEMBERS.DBF to the hard disk prior to beginning its print routine. Also, note that prior to printing something, PTARS always presents a "Check the printer" notification. (See Figure 11.) You are also given the option to abort the print job. It is particularly important to heed this notification prior to printing recalls since the printing volume can be over 200 pages during this process and the print job can last over 45 minutes. Moreover, as discussed below, recall dates are inserted into the Members database. Any disruption of this process is problematic.

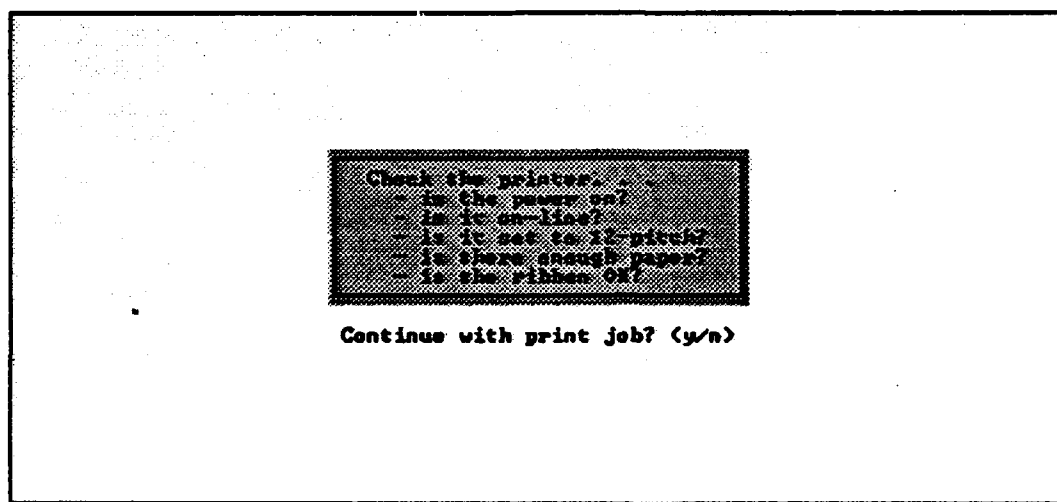


Figure 11. "Check the printer" notification.

It is important that recalls be printed at approximately the same time every month (e.g., the last day of the month or the first day of the month). This will provide consistency in the intervals that members receive follow-up letters, should they be necessary.

When you print recalls, all recall letters are printed and recall letter dates are inserted into MEMBERS.DBF. (Note: The current MEMBERS.DBF is backed-up to the hard disk before printing.) "Print Recalls" also creates a file for each recall letter category which lists members for whom a recall letter is printed (Recall1.lst to Recall4.lst). The previous recall list files are saved with a .BAK extension should they need to be examined from DOS. The logic of recall printing is described following the important section below.

IMPORTANT - The recall letter printing module automatically inserts a new recall letter date into the Members database when a recall letter is printed. It also creates files (RECALL1.LST to RECALL4.LST) containing SSNs and names of members for whom a recall letter was printed. If a printer malfunction occurs or the print job is aborted for some reason, it will be necessary to compare the file listings of the most recent recall letters against the physically printed letters. Members who are on the file listing, but for whom there is no useable printed recall letter, must have the new recall letter date deleted before the program can print a replacement recall letter. This is because the printing module checks the existing recall dates to determine if an appropriate recall letter has already been printed.

If for some reason none or relatively few usable recall letters are printed (e.g., the printer was not turned on or there was an early paper jam), you may want to consider restoring the hard disk backup that was created just prior to printing the recalls and starting over. None of the new recall dates will exist on the backup and you can fix the printer and start fresh. See "Restoring backup(s)" in chapter 6. The logic of the recall process is described below:

- Recall 1** Recall 1 is triggered after at least 10 full months + 1 day have transpired since the member's last T2 exam. Prints a memo to the member and records the print date as Recall 1 date.
- Recall 2** Recall 2 is triggered after at least 11 full months + 1 day have transpired since the member's last T2 exam, provided that Recall 1 date is in the database and that at least 25 days have transpired since Recall 1. Prints a memo to the member and records the print date as Recall 2 date.
- Recall 3** Recall 3 is triggered after at least 12 full months + 1 day have transpired since the member's last T2 exam, provided that Recall 2 date is in the database and that at least 25 days have transpired since Recall 2. Prints a letter to the member and records the print date as Recall 3 date.
- Recall 4** Recall 4 is triggered after at least 13 full months + 1 day have transpired since the member's last T2 exam, provided that Recall 3 date is in the database and that at least 25 days have transpired since Recall 3. Prints the letter to the member's superior (i.e., Curriculum Officer for students or to Activity POC for non-students) and records the print date as Recall 4 date.

Example recall letters 1 through 4 are shown in Figures 11 through 14 on the following three pages. Note that the text of Recall 4 indicates that Recall 3 is included as an enclosure. Thus, when routing Recall 4 letters a copy of Recall 3 should be attached. Copies of recall letters can be made by printing from double-copy paper, or alternatively, Xerox copies of just letters 3 and 4 can be made before routing them. The volume of these two letters is historically very low.

1 December 1991

MEMORANDUM (First Reminder)

From: Director, Branch Dental Clinic, Monterey
To: ENS Dandelion Wine, USN, 023-12-3122, NPS STUDENT (SMC 1002)

Subj: ANNUAL DENTAL EXAMINATION

Ref: (a) SECNAVINST 6600.1C
(b) AR 40-35
(c) AF MAN 30-130
(d) COMDTINST M6000.1B

1. References (a) through (d) require that all personnel receive an annual dental examination. Your record indicates that you will be due for an examination next month.
2. Please schedule an appointment with the Dental Clinic in person or by calling 646-2477/2478 at your earliest convenience.
3. If you have had a dental exam within the past 90 days, please contact the dental clinic so that we may update your record. If you have already made an appointment, please disregard this notice.

R. C. TERHUNE

Figure 11. Example Recall 1 memorandum.

1 December 1991

MEMORANDUM (Second Reminder)

From: Director, Branch Dental Clinic, Monterey
To: LCDR Robert O. Bloch, USN, 076-35-3746, NPS STUDENT (SMC 1230)

Subj: ANNUAL DENTAL EXAMINATION

Ref: (a) SECNAVINST 6600.1C
(b) AR 40-35
(c) AF MAN 30-130
(d) COMDTINST M6000.1B

1. References (a) through (d) require that all personnel receive an annual dental examination. Your record indicates that you will be due for an examination this month.
2. Please schedule an appointment with the Dental Clinic in person or by calling 646-2477/2478 within 10 days of receiving this notice.
3. If you have had a dental exam within the past 90 days, please contact the dental clinic so that we may update your record. If you have already made an appointment, please disregard this notice.

R. C. TERHUNE

Figure 12. Example Recall 2 memorandum.

BRANCH DENTAL CLINIC
NAVAL POSTGRADUATE SCHOOL
MONTEREY, CA 93943-5100

1 December 1991

From: Director, Branch Dental Clinic, Monterey
To: LT Antoine R. Andrews, USN, 012-12-1212, NDCLB
Subj: ANNUAL DENTAL EXAMINATION DELINQUENCY NOTIFICATION

Ref: (a) SECNAVINST 6600.1C
(b) AR 40-35
(c) AF MAN 30-130
(d) COMDTINST M6000.1B

1. References (a) through (d) require that all active duty military personnel receive a comprehensive dental examination at least once each 12 months.
2. A review of your dental record indicates that your last dental examination was conducted in November, 1990.
3. This facility attempts to assist each member by sending out computerized reminders when their annual examination is due. This was done in your case on 1 October, 1991 and 2 November, 1991 and you failed to respond.
4. It is my responsibility to ensure adherence to the provisions of the references. I am therefore informing you that your annual dental examination must be accomplished prior to 1 January, 1992. Failure to comply will result in further action.
5. You may schedule an examination in person or by calling extension 2477/2478. If you have already made an appointment, please call to confirm it.

R. C. TERHUNE

Figure 13. Example Recall 3 letter.

BRANCH DENTAL CLINIC
NAVAL POSTGRADUATE SCHOOL
MONTEREY, CA 93943-5100

1 December 1991

From: Director, Branch Dental Clinic, Monterey
To: Curriculum Officer, Operations Analysis (Code 30)

Subj: MAJOR Larry B. Herman, USAF, 256-98-6582

Encl: (1) Copy of my ltr dtd 1 November, 1991

Ref: (a) SECNAVINST 6600.1C
(b) AR 40-35
(c) AF MAN 30-130
(d) COMDTINST M6000.1B

1. Per references (a) through (d), all active duty military personnel are required to have an annual dental examination. The Branch Dental Clinic, Naval Postgraduate School, contacts individuals requiring examination by sending them a recall notice via the mail. Dental records of personnel that do not respond and exceed the one year limit are marked accordingly and then another recall notice is sent.

2. MAJOR Herman was sent both recall notices and after failing to respond was sent enclosure (1). He/She once again has failed to respond and I must now assume that he/she does not intend to comply with the references.

3. It is requested that MAJOR Herman be appropriately counseled and directed to call extension 2477/2478 to schedule his/her annual dental examination. If you have any questions please feel free to call me at any time.

R. C. TERHUNE

Figure 14. Example Recall 4 letter.

Printing recall lists

Select "pRint most recent recall list" from the Recalls Menu. This option lists (to the printer only) the most recent recall letter information. (The same information is listed to the screen during the printing of the recall letters.) Use this option in the event of a printer malfunction when printing recall letters to compare physical letters against what the program "thinks" it printed. Popup options are presented to select which listing to print. Figure 15 depicts an example listing of Recall 3.

Listing of most recent Recall 3 letters. Created 01/23/92 at 12:00.				
SSN	Last Name	First Name	MI	Last T2
012-12-1212	Andrews	Antoine	R	07/14/90
089-64-3585	Morrison	Larry	R	02/17/89
123-92-9292	Alexander	Hamilton	A	07/12/90
133-21-3838	Zamfir	Jonathan	L	07/12/90
145-89-4509	Lane	Lois	A	04/12/90
149-34-9321	Connors	Jimmy	P	06/14/89
234-58-9234	Delbert	Arnold		07/12/90
282-38-2881	Cricket	Jiminy		07/28/90
283-82-3843	Dean	Larry	X	07/30/90
336-29-3121	Maples	Veronica	S	12/25/89
342-34-5245	Tillerman	Teaforthe		09/01/90
345-21-6587	Rogers	Maybelle	T	12/11/89
345-92-0394	Newman	Alfred	E	04/21/90
383-83-8383	Name	New		07/12/90
408-45-9084	Stevenson	Robert	L	04/21/89
427-84-8320	Diller	Phyllis		02/19/90
489-43-8438	Bell	Dabney		08/12/90
494-59-3493	Dillo	Arma	A	07/12/90
.
.
.

Figure 15. Example listing of Recall 3.

Viewing/editing recall dates

The "View/edit recall dates" option of the Recalls Menu provides a means for viewing recall letter dates for multiple records and for accessing individual records for recall letter date editing. This facility should be used in conjunction with the previously discussed recall listings in the event of a printer malfunction when printing recall letters. The sub-menu options of the View Recalls screen shown in Figure 16 are the same as the like-named options discussed in Chapter 3 for the Delete/view screen. Since recall dates are a subset of the fields in the Members database, records can not be deleted using View Recalls.

11/28/92 12:MM:MM am

<F1> for help

VIEW RECALL DATES

Records#	SSN	LAST NAME, FI--	RECALL_1	RECALL_2	RECALL_3	RECALL_4
1	000-00-0002	Merman, E	11/01/90	12/02/90	01/10/91	10/12/91
2	001-00-0003	Miserables, L	/	/	/	/
3	012-12-1212	Andrews, A	09/03/91	10/04/91	/	/
4	012-93-8475	Adams, J	07/18/90	08/18/90	09/18/90	10/12/91
5	022-20-0000	Marcos, I	/	/	/	/
6	023-12-3122	Wine, D	/	/	/	/
7	039-39-2828	Lincoln, M	/	/	/	/
8	076-35-3746	Bloch, R	10/04/91	/	/	/
9	003-02-7827	Mathews, M	/	/	/	/
10	009-64-3585	Morrison, L	09/16/90	10/04/91	/	/
11	102-20-0000	Mastroiani, M	/	/	/	/
12	109-20-3746	Laverne, S	/	/	/	/
13	123-45-6789	Doherty, J	11/21/91	/	/	/
14	123-58-9213	Madison, J	05/18/91	06/18/91	07/19/91	10/04/91
15	123-92-9292	Alexander, M	09/16/91	10/12/91	/	/
16	133-21-3838	Zamfir, J	09/16/91	10/12/91	/	/
17	134-15-6789	Sullivan, K	06/12/91	07/12/91	08/12/91	10/04/91
18	138-30-3838	Mears, R	/	/	/	/

VIEW RECALLS: <E>dit <F>ind <G>oto <M>ode <A>rrows <PgDn> <PgUp> <Return>

Figure 16. View Recalls screen.

As discussed previously, the purpose of editing recall letter dates is to enable PTARS to print a replacement recall letter. If a recall letter date is present for a given recall letter, the program will only be able to print the *next* letter when the eligibility date for the *next* recall letter arrives. To reprint a letter, the recall letter date *must* be deleted *and* there *must not* be a subsequent recall letter date present. If this sounds confusing, reread the previous coverage of "Printing Recalls".

To edit a member's recall dates, press {E}. The current row of the display will be highlighted and placed into edit mode. Use normal editing and movement keys to edit the date(s). Note that edited dates are checked for chronological consistency as well as general date validity (i.e., can not be later than the current date, must have a prior recall, can not be missing a recall between recalls, values must be chronologically correct for existent recalls).

Reports

This chapter discusses the various reports available in PTARS and provides several example figures to preview the look of the reports. The Reports Menu, shown in Figure 17, is accessed from the Main Menu by pressing {P}. The Operational Readiness Report is available to both the screen and the printer. The other reports (rosters) are sent to the printer only.

```

11/28/92 12:00:00 am
PTARS REPORTS MENU

<F1> for help
<Alt+F1> for functions

0. Exit to main menu
1. Operational readiness
2. Members (all)
3. members by Class
4. members by UIC (all)
5. members by Pano status
6. Activities
7. curriculum

select : : 

```

Figure 17. Reports Menu.

Operational readiness

The Operational Readiness Report provides counts and percentages of members in each of the dental CLASS categories. The report is initially displayed to the screen and you are given the option of printing it. Operational Readiness is defined as the percentage of all members served by the clinic who are classified as CLASS 1 or 2. As can be seen in Figure 18, the Operational Readiness percentage is a simple summation of the CLASS 1 and CLASS 2 percentages.

BRANCH DENTAL CLINIC, MONTEREY OPERATIONAL READINESS REPORT All Members					January 28, 1992
CLASS CATEGORY:	Class 1	Class 2	Class 3	Class 4	TOTAL
MEMBER COUNT:	1152	566	111	91	1920
PERCENT OF TOTAL:	60%	29%	5.8%	4.7%	100%
OPERATIONAL READINESS:	89%				

PANO CATEGORY:	Green	Red	Yellow	TOTAL
PANO COUNT:	1853	21	46	1920
PERCENT OF TOTAL:	97%	1.1%	1.9%	100%

Print this report? (y/n)

Figure 18. Operational Readiness Report to screen.

Also included in the report are counts and percentages of members whose Pano X-rays are in a given status. Three Pano status categories exist and are designated by standard color designations:

GRN (Green)	Pano is accepted and on-file
RED	Pano has been duplicated and forwarded
YLW (Yellow)	Pano is not on-file and has not been duplicated and forwarded

Rosters

The remaining reports available from the Reports Menu are basically rosters sorted on various fields of interest. After selecting any of the Members reports a popup will offer a selection of whether to list members by SSN or alphabetically. If printing Members by dental CLASS, a popup will allow selection of a specific CLASS or all members. If printing Members by Pano status, a popup will allow selection of a specific status or all members. Figure 19 provides an example roster of Members listed by SSN that could be printed by selecting option 2, "Members (all)", from the Reports Menu.

Selections 6 and 7 from the Reports Menu print complete rosters of the Activities and the Curriculums contained in their respective PTARS databases.

Periodic comparison of Member rosters against data from both PSD and the Registrar will help keep member data up-to-date. Current listings of the Curriculums at NPS should also be obtained from the Registrar so that the Curriculum database can be kept up-to-date.

FOR OFFICIAL USE ONLY		BRANCH DENTAL CLINIC MONTEREY Member Listing by SSN					January 28, 1992	
SSN	NAME	RANK	SERVICE BRANCH	UIC	SMC/ CODE	LAST T2 EXAM	CLASS	PANO STATUS
000-00-0002	Merman, Ethel	LT	USN	63134	1000	03/21/89	4	GRN
001-00-0003	Miserables, Les	LT	USN	45210		03/21/91	1	GRN
012-12-1212	Andrews, Antoine R.	LT	USN	35728		07/14/90	4	GRN
012-93-8475	Adams, John Q.	ENS	USN	31405	1280	07/12/89	4	YLW
022-20-0000	Marcos, Imelda	CAPT	USA	TRAC		09/12/91	1	RED
023-12-3122	Wine, Dandelion	ENS	USN	31405	1002	07/30/90	4	GRN
039-39-2828	Lincoln, Mark	ENS	USN	31405	1010	11/17/90	4	GRN
076-35-3746	Bloch, Robert O.	LCDR	USN	31405	1230	01/05/90	4	YLW
083-82-7827	Mathews, Mark M.	LTJG	USN	35728		04/12/91	1	YLW
089-64-3585	Morrison, Larry R.	LTJG	USN	31405	1343	02/17/89	4	RED
102-20-0000	Mastroiani, Marcello O.	LT	USN	31405	2030	09/12/91	1	GRN
109-28-3746	Laverne, Shirley	DT2	USN	35728		07/30/91	4	GRN
123-45-6789	Doherty, Janet I.	LT	USN	31405	1001	11/21/90	4	GRN
.
.
568-46-4321	Johnson, Emily T.	YN3	USN	43073		06/03/91	1	GRN
571-56-3636	Conseco, Jose F.	ENS	USN	31405	1776	07/12/90	4	GRN
574-84-3823	Than, Smaller X.	LCDR	USN	31405	2312	07/12/91	1	GRN

Page: X

Figure 19. Members (all) roster sorted by SSN.

Utilities

This Chapter explains the various utilities included with PTARS that support proper maintenance of the databases. The Utilities Menu is accessed by pressing {U} from the Main Menu and is shown in Figure 20.

It contains the following sections:

- Backup utilities
- Changing the password
- Packing the database(s)
- Changing the date or time
- Selecting the default printer

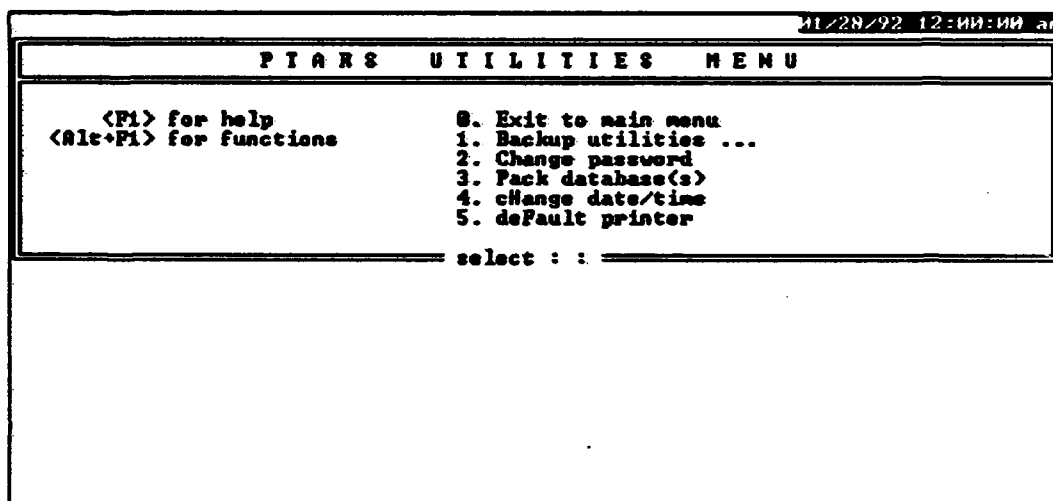


Figure 20. Utilities Menu.

Backup utilities

The backup utilities are a collection of utilities related to backing-up and restoring the four database files MEMBERS.DBF, ACTIVITY.DBF, CURRICUL.DBF, and

DIRECTOR.DBF. The Backup Utilities Menu, shown in Figure 21, is accessed from the Utilities Menu by pressing {B}. Each of the menu selections will be discussed in the sub-sections below.

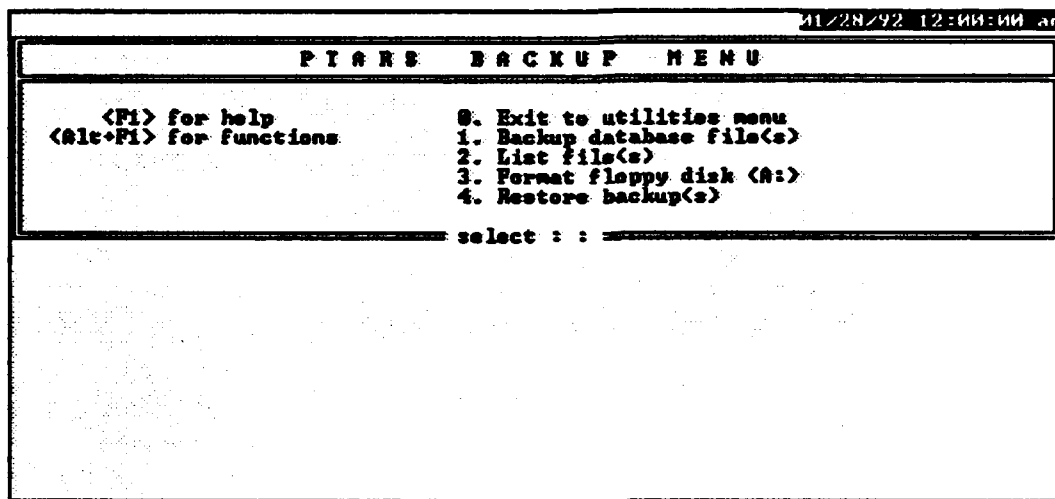


Figure 21. Backup Utilities Menu.

Backing-up database(s)

When you first select Backup, a popup will appear allowing you to select whether you want to back-up to the hard disk or the floppy disk in drive A. Next, another popup appears to let you select which database file(s) (i.e., MEMBERS.DBF, ACTIVITY.DBF, CURRICUL.DBF, DIRECTOR.DBF, or all) to back-up. Once your selection is made, Backup copies the selected file(s) to the destination drive. Backing-up to a floppy keeps a reserve copy of the data that can be restored in case something happens to the computer, hard disk, or the data. Backing-up to the hard disk is convenient for short-term backups, but is *not* sufficient for best reliability. Note that the PTARS program presents the option to back-up the databases to the hard disk prior to quitting a session.

Your data *should* be backed up to a floppy disk weekly and immediately following input or editing sessions involving many records. It is a good idea to keep two or three backup floppies in rotation—writing over the oldest backup each time. *Always* label your backups to floppy disk with the file names and their creation dates. This will help you to identify your backups later if you need to restore them. Hint: use a pencil to label your backups; you can use several floppy disks over and over again by erasing and writing the new information.

Remember, there is only one way to ensure the safety of your data: rigorous adherence to a regular program of backing-up.

Listing files

A popup menu allows selecting the hard disk PTARS subdirectory or floppy disk A: for listing files. Either just database files can be displayed or all files can be displayed. When database files are displayed the following information is included: file name, number of records, last update, file size, total bytes in database files, and bytes remaining on the drive. When all files are displayed, file names are listed and total bytes used in the files and bytes remaining on the drive are presented.

This utility is useful for identifying files that might already exist on a diskette that will be used for backups.

Formatting a floppy disk

Formats a 360Kbyte or a 1.2Mbyte floppy disk (5 ¼") placed in drive A. A popup presents three options:

360K --> 360K	Formats from a 360K capacity drive to a 360K floppy
1.2M --> 360K	Formats from a 1.2M capacity drive to a 360K floppy
1.2M --> 1.2M	Formats from a 1.2M capacity drive to a 1.2M floppy

The first number indicates the actual drive-type. For example, your machine may only be capable of formatting 360K floppy disks, as in the first option. The second number indicates the floppy disk formatted capacity. A new floppy disk must be formatted so that the Disk Operating System (DOS) can read and write data to it.

Restoring backup(s)

When you select "Restore backup(s)", a popup enables selectively replacing database file(s) with backups from the hard disk or a floppy disk.

At the end of every session with PTARS you are presented with the option to backup the databases to the hard disk. If you choose to do so, four backup database files, MEM_BU.DBF, ACT_BU.DBF, CUR_BU.DBF, and DIR_BU.DBF are created in the PTARS subdirectory of your hard drive. These files can be restored (either singly or together) to MEMBERS.DBF, ACTIVITY.DBF, CURRICUL.DBF, and DIRECTOR.DBF, respectively. The restored backups overwrite the current database file(s).

Note that backing-up to the hard drive does not protect your data from hard drive or computer failure since the backups reside on the same machine as the original data. The feature is useful, however, if your original data becomes corrupted for some reason but your backups are still OK. In addition, it may be useful in the event you have experienced a printer malfunction (e.g., your printer ribbon gave up the ghost) and you have many unusable recall letters. Rather than editing recall dates and printing again,

it may be advantageous to restore the backup of MEMBERS.DBF (which PTARS always makes before printing recalls) and start over.

A final method of restoring any database is to manually copy the file using DOS commands. This method should never be necessary since the capability is built into PTARS. If for some reason you should need to manually restore a *.DBF file, be sure that any like-named compound index file (*.CDX) is erased (e.g., from the DOS prompt: `del c:\ptars\members.cdx`) This is because a unique index file is created and updated by PTARS for each database. If the index file does not "belong" to the specific version of a database, PTARS will not perform properly and will give an error notification.

Changing the password

You can change the current password to a new password (it must have 6 characters). Make sure that you *remember* the new password. If you ever forget your new password, copy the file NPS_MISC.DBF from disk 3 of your *backup copies* of the installation disks to the sub-directory \PTARS (e.g., copy `a:\nps_misc.dbf c:\ptars`). The original password is "zyxabc". This default password should be changed immediately after you install PTARS. (If you can read it here, so can someone else.) Note that the password is encrypted in the file NPS_MISC.DBF and cannot be deciphered if it is forgotten.

Figure 22 shows the screen for changing the password. As you type your new password, a dot will appear for each character typed. As shown in the figure, to verify that you typed what you thought you typed, PTARS prompts for a second entry of your new password. If the two entries do not match, the password change will be aborted.

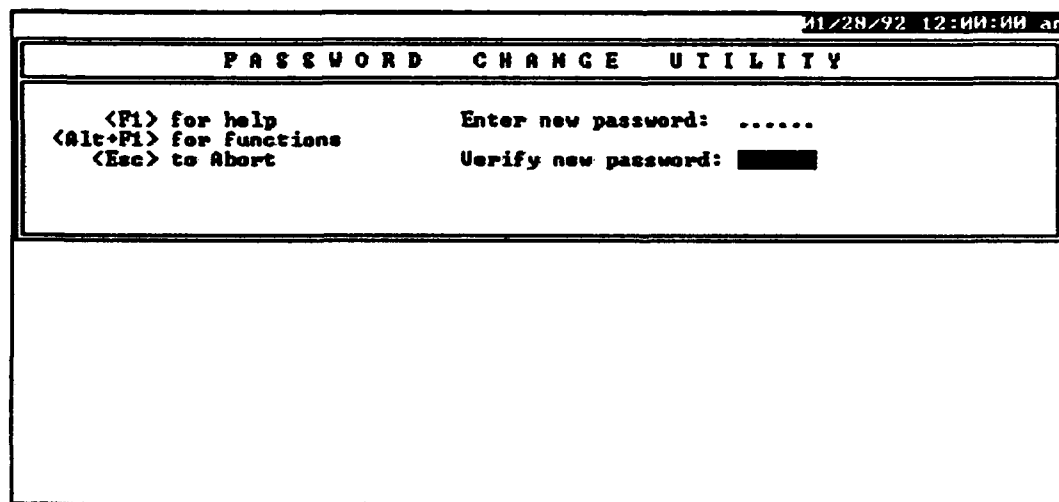


Figure 22. Password change screen.

For effective security it is a good idea to periodically change your password. If an unauthorized individual inadvertently (or even deliberately) changes or damages your data, it could be a catastrophe. Regarding security, just think about having to re-enter over 1900 records!

Packing the database(s)

Packing the database(s) *permanently* deletes records "marked" for deletion from one or all of the three primary databases: MEMBERS.DBF, ACTIVITY.DBF, and CURRICUL.DBF. It also physically sorts the databases. MEMBERS.DBF is sorted in ascending order by SSN; ACTIVITY.DBF is sorted in ascending order by UIC; and CURRICUL.DBF is sorted in ascending order by curriculum number. Packing improves the performance of PTARS by reducing the physical size of the database(s) and reorders the records by the primary key. Note that the effects of packing are *not* "undoable". An informational prompt will appear upon quitting a session when 10% or more of the MEMBER.DBF records are marked for deletion. You should heed the prompt and pack the database (unless you have some good reason not to).

Changing the date or time

After selecting the "Change date or time" option a popup for selecting which to change (date or time) appears. After your selection is made you are prompted to enter the date or time using the example format shown on the screen. The system date or time can also be changed when starting the PTARS program. As part of the opening screen routine the user is prompted to verify the system date and time. If the system date or time displayed is incorrect, enter the correct date or time using the example format shown on the screen.

Selecting the default printer

You should select the default printer before printing anything from PTARS for the first time. After choosing this option from the Utilities Menu, PTARS pops-up two common printer emulations for dot matrix printers: (1) Epson E/F/J/RX/LQ emulation and (2) IBM Proprinter emulation. The emulation you select becomes the default for all subsequent sessions. The Epson emulation is supported by the majority of 9 pin dot matrix printers and PTARS uses it as the initial default. The default printer identifier is stored in a field in the NPS_MISC.DBF file.



Optimizing PTARS

This appendix identifies several ways that you can optimize the performance of PTARS if you have certain hardware or software capabilities. It contains the following sections:

- Disk defrag/compress
- Memory
- Config.sys
- Pack the database(s)

Disk defrag/compress

The performance of PTARS can be significantly improved if a disk defragment/compression procedure is performed on your hard drive periodically. Over time the database files will become fragmented as records are appended, edited and deleted. This slows down disk reads and writes since each file is no longer one contiguous piece; files can become many pieces scattered all over the disk. Defragment/compression utilities are available commercially.

Memory

PTARS will take advantage of all types of computer memory. If your computer is configured correctly, PTARS' performance will be enhanced. **Note that if you change your computer's memory configuration or add a disk cache program, you must re-install PTARS so that it operates optimally.**

Personal Computers (PC)s can contain three types of memory: conventional, expanded and extended.

Conventional Memory

All PCs can contain conventional memory (up to 640K). This is the memory that programs typically load into and run in. PTARS requires that you have at least 512K of conventional memory with at least 420K of it free after memory resident programs have been loaded. A minimum of 640K is *strongly* recommended.

Expanded Memory

The 8086 family of microprocessors have a physical address space of 1024K, or 1MB. The first 640K is the conventional memory space discussed above. The remaining 384K is reserved for use by read-only memory (ROM) and hardware device controllers. Also, within this area of memory, a 64K block can be reserved for use by an expanded memory manager which conforms to the Lotus/Intel/Microsoft interface specification (a LIM EMS Memory Manager).

The Expanded Memory Manager (EMM) administers expanded memory as a system resource that can be used by several applications at the same time and services EMS function calls. EMS memory is bank-switched memory that can be larger than the CPU's address space that is mapped into conventional memory via the EMS page frame.

On machines with expanded memory that is LIM 4.0 EMS compatible, PTARS uses the first 64K of expanded memory as "general purpose" memory and any remaining expanded memory to speed file I/O and to cache PTARS code segments.

To check how much EMS is currently being used by PTARS, look in the "About PTARS" box (by pressing <F4> or <Alt+F1>).

If you run on an 80386 or 80486 you're in luck! There are many inexpensive programs that use extended memory to emulate EMS, such as QEMM from Quarterdeck and 386MAX from Qualitas. MS-DOS 5.0 includes EMM386. On a 386 always use QEMM, 386Max, or other expanded memory managers. You'll be glad you did!

If you use a non-80386 processor you have several options. First, you could invest in an EMS board. These pieces of hardware, which usually work with both 8086/88 and 80286 processors, include substantial amounts of memory together with driver programs which provide the software interface to the board.

Extended Memory

Extended memory is memory that lies above the 1MB address range. It can be used directly by some operating systems (OS/2 and UNIX), but standard DOS cannot address it without the use of an Extended Memory Specification (XMS) driver, an interface that allows access to memory beyond 640K. Applications using this address space must be running in protected mode.

Extended memory cannot be used directly by PTARS until it is made to act like EMS. How you make extended memory act like expanded memory is dependent on your system, but typically you install a memory manager -- software that provides an EMS style (LIM 4.0) interface to extended memory. Once the extended memory is emulating EMS memory, PTARS will sense that it is there and make good use of it.

Config.sys

The system configuration file, CONFIG.SYS, contains certain commands that are checked and executed when you start up your computer. These commands change your computer's default configuration.

CONFIG.SYS is not a PTARS file. It's a file that DOS uses to establish the working environment. Because PTARS interacts with this environment, you must be sure that certain settings are properly established. Two CONFIG.SYS statements are of immediate importance to PTARS:

BUFFERS The BUFFERS statement contains the number of disk buffers that DOS sets aside in memory when your computer is started. A disk buffer is a block of memory (typically 512 bytes) that DOS uses to hold data when reading and writing from disk. For best performance with PTARS, the CONFIG.SYS file should contain a BUFFERS statement with a number between 20 and 40 (e.g., BUFFERS=30).

FILES The FILES statement sets the number of files that DOS can open and access at one time. This number is directly related to the number of files that PTARS will be able to open. The FILES statement in CONFIG.SYS should always be at least 25 (e.g., FILES=25).

See your DOS manual for complete details on the CONFIG.SYS file and the various statements it can contain.

Pack the database(s)

Packing the databases is covered in Chapter 6.



File definitions

The files listed below (with their definitions) are installed by Setup into the "\PTARS" hard disk subdirectory. These files are essential to the operation of PTARS. Three of the files, FOXPRO.ESL, FOXPRO.ESO, and PTAR.EXE are in compressed form on the installation disks and will not work if copied directly from the floppy disk to your hard drive. All of the other files installed by PTARS are in normal form on the installation disks.

PTARS files

CONFIG.FP	resource pointer file
FOXPRO.ESL	database routines library
FOXPRO.ESO	database routines library
CACHE.COM	extended memory (512K req'd) disk cache utility
NPS_MISC.DBF	contains encrypted password, default printer, backup date
NPS_USER.DBF	contains configuration information
NPS_USER.FPT	memo file for configuration information
PTAR.EXE	PTARS executable program
PTARS.COM	PTARS loader program

NPSDC database files

ACTIVITY.DBF	contains UIC information
CURRICUL.DBF	contains student Curriculum information
DIRECTOR.DBF	contains current Director signature name
MEMBERS.DBF	contains Member information

The following files are created during the operation of PTARS and may or may not be present at any given time:

ACTIVITY.CDX	compound index file for ACTIVITY.DBF
CURRICUL.CDX	compound index file for CURRICUL.DBF
MEMBERS.CDX	compound index file for MEMBERS.DBF
ACT_BU.DBF	hard disk backup of ACTIVITY.DBF
CUR_BU.DBF	hard disk backup of CURRICUL.DBF
DIR_BU.DBF	hard disk backup of DIRECTOR.DBF
MEM_BU.DBF	hard disk backup of MEMBERS.DBF

RECALL1.LST	most recent listing of members receiving recall 1 letter
RECALL2.LST	most recent listing of members receiving recall 2 letter
RECALL3.LST	most recent listing of members receiving recall 3 letter
RECALL4.LST	most recent listing of members receiving recall 4 letter
RECALL1.BAK	previous listing of members receiving recall 1 letter
RECALL2.BAK	previous listing of members receiving recall 2 letter
RECALL3.BAK	previous listing of members receiving recall 3 letter
RECALL4.BAK	previous listing of members receiving recall 4 letter
RELATE1.VUE	PTARS environment file
RELATE2.VUE	PTARS environment file



Database specifications

Members.dbf

<u>Field-name</u>	<u>Type</u>	<u>Length</u>	<u>Usage</u>
SSN	Character	11	Social Security Number -- unique, mandatory, key field
LAST_NAME	Character	23	Last Name -- mandatory
FIRST_NAME	Character	15	First Name -- mandatory
MI	Character	1	Middle Initial -- if available
RANK_RATE	Character	5	Rank or Rate -- mandatory
BRANCH	Character	4	Service Branch -- mandatory, popup list
LAST_T2	Date	8	Last-T2-Exam date -- mandatory
CLASS	Numeric	1	Dental Class -- mandatory, range (1 - 4), PTARS updated
PANO	Character	3	Pano X-ray status -- mandatory, popup list
UIC	Character	5	Unit Identification Code -- mandatory, popup list, linked with ACTIVITY.DBF (used in "To:" line of recall letters to students)
CURR_NUM	Character	3	Curriculum Number -- mandatory for UIC 31405, popup list, linked with CURRICUL.DBF
SNC/CODE	Character	4	Student Mail Center number/Department Code -- if available (used in "To:" line of recall letters)
RECALL_1	Date	8	Recall 1 letter date -- PTARS created, editable
RECALL_2	Date	8	Recall 2 letter date -- PTARS created, editable
RECALL_3	Date	8	Recall 3 letter date -- PTARS created, editable
RECALL_4	Date	8	Recall 4 letter date -- PTARS created, editable

Activity.dbf

<u>Field-name</u>	<u>Type</u>	<u>Length</u>	<u>Usage</u>
UIC	Character	5	Unit Identification Code -- unique, mandatory, key field
ACRONYM	Character	11	Acronym for UIC -- mandatory (used in "To:" line of recall letters 1 - 3)
ACT_NAME	Character	47	UIC Name -- mandatory (used in "To:" line of recall 4 letter)
POC	Character	20	UIC Point of Contact -- mandatory (used in "To:" line of recall 4 letter)

Curricul.dbf

<u>Field-name</u>	<u>Type</u>	<u>Length</u>	<u>Usage</u>
CURR_NUM	Character	3	Curriculum Number -- unique, mandatory, key field
CURR_NAME	Character	46	Curriculum Name -- mandatory (used in "To:" line of recall 4 letter applicable to students)
DEPT_CODE	Character	2	Department Code of Curriculum -- mandatory (used in "To:" line of recall 4 letter applicable to students)
PHONE_NO	Character	4	Curriculum Office Phone Number -- mandatory

Director.dbf

<u>Field-name</u>	<u>Type</u>	<u>Length</u>	<u>Usage</u>
DIRECTOR	Character	20	Director signature -- mandatory (format as per signature line of recall letters)

APPENDIX D: RELATION DEFINITIONS

MEMBER

<u>Item</u>	<u>Type</u>	<u>Length</u>
SSN	Character	11
Last-name	Character	23
First-name	Character	15
MI	Character	1
Rank_rate	Character	5
Branch	Character	4
Last_T2	Date	8
Class	Numeric	1
Pano	Character	3
UIC	Character	5
Curr-num	Character	3
SMC/Code	Character	4
Recall_1	Date	8
Recall_2	Date	8
Recall_3	Date	8
Recall_4	Date	8

ACTIVITY

<u>Item</u>	<u>Type</u>	<u>Length</u>
UIC	Character	5
Acronym	Character	11
Act-name	Character	47
POC	Character	20

CURRICULUM

<u>Item</u>	<u>Type</u>	<u>Length</u>
Curr-num	Character	3
Curr-name	Character	46
Dept_code	Character	2
Phone_no	Character	4

KEYCHARS	NPS_PROD.PRG	500	503			143	147	150		REWARDS_LAST_12	10335				
KEYCODE	NPS_PROD.PRG	501V	504	504		MAIN_MENU		(procedure in NPS_PROD.PRG)		NPS_PROD.PRG					
NPS_PROD.PRG	NPS_PROD.PRG	200				NPS_PROD.PRG	89	2161		REWARDS_RI	10336				
NPS_PROD.PRG	NPS_PROD.PRG	330	123	125	127	134	1126	12116	12116	1111	1411	1412	1412	1412	1415
KEYSTROKES	NPS_PROD.PRG	1800	187	201	215	227									
NPS_PROD.PRG	NPS_PROD.PRG	240	41	88	114										
NPS_PROD.PRG	NPS_PROD.PRG	3340	347	383	409										
LASTPAGE	NPS_PROD.PRG	320													
NPS_PROD.PRG	NPS_PROD.PRG														
LASTPAGE	NPS_PROD.PRG	59	64	122											
NPS_PROD.PRG	NPS_PROD.PRG	710													
NPS_PROD.PRG	NPS_PROD.PRG	51													
NPS_PROD.PRG	NPS_PROD.PRG	78	115	126	144	144									
NPS_PROD.PRG	NPS_PROD.PRG	92													
NPS_PROD.PRG	NPS_PROD.PRG	149													
NPS_PROD.PRG	NPS_PROD.PRG	445													
NPS_PROD.PRG	NPS_PROD.PRG	39													
NPS_PROD.PRG	NPS_PROD.PRG	47													
LASTPAGE	NPS_PROD.PRG	580	585	588	608	619	628								
NPS_PROD.PRG	NPS_PROD.PRG														
LASTPAGE	NPS_PROD.PRG	1122	1222												
NPS_PROD.PRG	NPS_PROD.PRG	84	84	88	91										
NPS_PROD.PRG	NPS_PROD.PRG	281													
NPS_PROD.PRG	NPS_PROD.PRG	522	548												
LASTPAGE	NPS_PROD.PRG	1127	1227												
NPS_PROD.PRG	NPS_PROD.PRG	225													
NPS_PROD.PRG	NPS_PROD.PRG	195													
NPS_PROD.PRG	NPS_PROD.PRG	283													
NPS_PROD.PRG	NPS_PROD.PRG	85	92	98	104										
LEFTARROW	NPS_PROD.PRG	250	39	41	227										
NPS_PROD.PRG	NPS_PROD.PRG	3330													
LISTPAGE	NPS_PROD.PRG	107	116	126	135	211	212	215	216	217	220				
NPS_PROD.PRG	NPS_PROD.PRG	253													
LISTPAGE	NPS_PROD.PRG	253	254	281	283	286	299	300	322	324	337				
NPS_PROD.PRG	NPS_PROD.PRG	338	353												
NPS_PROD.PRG	NPS_PROD.PRG	502	503	522											
LISTPAGE	NPS_PROD.PRG	34	104	115	125	134	224	227	230	233	239				
NPS_PROD.PRG	NPS_PROD.PRG	242	245	248											
LISTPAGE	NPS_PROD.PRG	4510	444	447	496	502	514	520							
NPS_PROD.PRG	NPS_PROD.PRG	445	448	482	483	484	487	488	491	531					
LISTPAGE	NPS_PROD.PRG	59	450	452	455	456	457	460	470						
NPS_PROD.PRG	NPS_PROD.PRG	281	287	289											
LISTPAGE	NPS_PROD.PRG	71	76												
NPS_PROD.PRG	NPS_PROD.PRG	1144	1244	1350											
LISTPAGE	NPS_PROD.PRG	71	76												
NPS_PROD.PRG	NPS_PROD.PRG	1145	12416	1242	1349										
NPS_PROD.PRG	NPS_PROD.PRG	257													
LISTPAGE	NPS_PROD.PRG	125													
NPS_PROD.PRG	NPS_PROD.PRG	58	63	85	89	92	122	126	130	135	139				
NPS_PROD.PRG	NPS_PROD.PRG														

MPS_RECA.PRG 135 177 240 279 330 501 540 673
MPS_REPO.PRG 144 211 244 308 348
MPS_UTIL.PRG 81 124 161 194 269 297
MPS_BU.PRG 79 127 173 326 347 422 450 543 586
MPS_PACK.PRG 79 119
PROPTIME
MPS_RECA.PRG 58 63
MPS_REPO.PRG 904 940 985
MPS_UTIL.PRG 54
MPS_APPE.PRG 82
MPS_EDIT.PRG 221
MPS_BROW.PRG 83
MPS_RECA.PRG 377
PROPTBU
MPS_RECA.PRG 94 3751
PROPTBU
MPS_RECA.PRG 58 63
MPS_REPO.PRG 904 940 985
MPS_UTIL.PRG 54
MPS_APPE.PRG 82
MPS_EDIT.PRG 221
MPS_BROW.PRG 83
MPS_RECA.PRG 377
QUITBU
MPS_RECA.PRG 113 1421
RANK RATE
MPS_RECA.PRG 1125 1325
MPS_BROW.PRG 281
REC CHT
MPS_RECA.PRG 402V 404+ 431
MPS_REPO.PRG 794V 804+ 822 857V 869+ 885
RECALLS
MPS_RECA.PRG 302
RECALL1
MPS_RECA.PRG 41
RECALL2
MPS_RECA.PRG 42
RECALL3
MPS_RECA.PRG 43
RECALL4
MPS_RECA.PRG 44
RECALL5
MPS_RECA.PRG 149
RECALLS REAU
MPS_RECA.PRG 47 1351
RECALLS REUT
MPS_RECA.PRG 303R
RECALL1
MPS_RECA.PRG 195 194R
MPS_REPO.PRG 284
MPS_RECA.PRG 100 105 523 551 552 553 554 557 584
RECALL2
MPS_RECA.PRG 197R
MPS_REPO.PRG 284
MPS_RECA.PRG 94 100 523 558 585
RECALL3
MPS_RECA.PRG 198R
MPS_REPO.PRG 284
MPS_RECA.PRG 84 87 94 524 559 586
RECALL4
MPS_RECA.PRG 199R
MPS_REPO.PRG 284
MPS_RECA.PRG 88 524 540 587
RECALL5
MPS_RECA.PRG 367 5011
RECALL6
MPS_RECA.PRG 59 64
MPS_REPO.PRG 519 521 580 581+ 587 591 592 608 609+ 619+
MPS_RECA.PRG 623+ 624+ 628 1451V 1452+ 1458 1471 1480V 1490+ 1496

MPS_OPEN.PRG 1509
MPS_APPE.PRG 51
MPS_REPO.PRG 30V
MPS_EDIT.PRG 53+ 92
MPS_BROW.PRG 50+ 51 77+ 149 150 384
MPS_RECA.PRG 385+ 356 345+ 348 445 446
RECAUNLAST
MPS_BROW.PRG 21V 135+ 141
MPS_RECA.PRG 332V 430+ 436 442 451+ 457
RECAUNOPS
MPS_APPE.PRG 30V 33+ 61+ 61 78 115 126 139+ 139 144
RECAUNTOP
MPS_REPO.PRG 349+ 354+ 344+ 375+
MPS_BROW.PRG 24V 51+ 78 143+ 151+ 206 211+ 216 221+
MPS_RECA.PRG 332V 354+ 346 459+ 467+ 472 477+ 482 487+
RECOX
MPS_RECA.PRG 599 619 639 658
RECPIN
MPS_RECA.PRG 196 201 206 211 220 2401
RECTYPE
MPS_RECA.PRG 34V 35+ 194+ 196 199+ 201 204+ 206 209+ 211
219+ 220 241 254 257R
REC_LISTS
MPS_RECA.PRG 120 1771 179 182 183 184 185 186 187 190
225R
RELATE1
MPS_OPEN.PRG 142 183
MPS_REPO.PRG 59
MPS_RECA.PRG 62
RELATE2
MPS_OPEN.PRG 179
MPS_RECA.PRG 74
MPS_REPO.PRG 48
REPORT_REAU
MPS_REPO.PRG 82 1641
MPS_RECA.PRG 47
MPS_REPO.PRG 21V 54+ 55 58
MPS_RECA.PRG 424V 438+ 441+ 479 494 721 724 735 738 749
782 783 784
MPS_REPO.PRG 439 442 4591 461 464 465 466 467 468 469
675 774R
MPS_REPO.PRG 410 4231 425 428 429 430 434 444R
MPS_RECA.PRG 54 41 92
MPS_REPO.PRG 415 418 475 749 771
MPS_UTIL.PRG 20V
MPS_OPEN.PRG 48+
MPS_APPE.PRG 55 59 121 132 150
MPS_EDIT.PRG 45 47
MPS_BROW.PRG 42 118 34+
MPS_RECA.PRG 544+ 547 413
MPS_REPO.PRG 94
MPS_UTIL.PRG 281
MPS_REPO.PRG 228 383
MPS_PACK.PRG 39
RIGHTARROW
MPS_REPO.PRG 25V 40+ 42 232
MPS_RECA.PRG 333V
MPS_REPO.PRG 351+ 354+ 344+ 377+ 381 382
MPS_BROW.PRG 24V 44+ 45 46 107 119 119 273 314 347
MPS_RECA.PRG 334V 349+ 350 351 402 414 414 516
ROUNDROTT
MPS_REPO.PRG 334 336 381+
MPS_BROW.PRG 24V 45+ 83 84 133 136 138 140 147 149
MPS_RECA.PRG 334V 350+ 377 378 419 452 454 454 463 465

ROUTOP
MPS_REPO.PRG 361
MPS_BROW.PRG 382
24V 43+ 44 49 72 97 259 260 263 264
267 248 273 303 314 341 342 347 373
378 380 382 387
MPS_RECA.PRG 334V 348+ 351 354 367 370 392 510 511 516
547
ROM_LOAD_BU
MPS_REPO.PRG 101+ 103+ 105 107 108
RPTNAME
MPS_REPO.PRG 47 51
MPS_REPO.PRG 94+ 98 108 118 127 137 144+ 145 152+ 153
226+ 229+ 232+ 235+ 241+ 244+ 217+ 250+ 349 344R
SAVEOP
MPS_REPO.PRG 5391 647 682
MPS_EDIT.PRG 100 110
SAYLINE
MPS_REPO.PRG 5441 644 674
MPS_EDIT.PRG 82
MPS_BROW.PRG 138
MPS_RECA.PRG 454
SAYREC
MPS_REPO.PRG 4671 673
MPS_EDIT.PRG 57 86 93 102 112
SCINPLB
MPS_APPE.PRG 34
SETPIN
MPS_REPO.PRG 16491
MPS_RECA.PRG 284
MPS_REPO.PRG 343
SET_POP
MPS_REPO.PRG 81 2531
SKIPRECS
MPS_REPO.PRG 382+ 44+ 207 217 378 380 382
MPS_BROW.PRG 24V
MPS_RECA.PRG 332V 351+ 367 473 483
SIC
MPS_REPO.PRG 1132 1239 1332
MPS_BROW.PRG 284
SPACE_CHECK
MPS_REPO.PRG 98 1951
SSE
MPS_REPO.PRG 1121 1321
MPS_OPEN.PRG 43 83
MPS_BROW.PRG 281 283 284
MPS_RECA.PRG 522 550
STATLINE
MPS_REPO.PRG 449 5181
MPS_APPE.PRG 78 115 126
STRG
MPS_REPO.PRG 567 570
TEMP
MPS_RECA.PRG 542V 548+ 550
TEMPF
MPS_PACK.PRG 21V 22+ 45
TEMPFILE
MPS_REPO.PRG 403+ 410 4115 4154 441 443R 447R
MPS_BROW.PRG 794V 797+ 798 799R 812R 818 819R 829 830R 835R
857V 860+ 861 862R 875R 881 882R 892 893R 896R
MPS_PACK.PRG 80 84 85R 124R 133 134R 152R
UIC
MPS_REPO.PRG 1130 1320 1348R
MPS_OPEN.PRG 87 88 114 157 176
MPS_EDIT.PRG 177
MPS_BROW.PRG 284 322 324
UICID
MPS_REPO.PRG 1450 1454

[illegible]

```

348 0 16.42 SAY ""
349 ""
350 --Allow either the number or the first letter of a main menu item.
351 SET INTENSITY OFF
352 GET CURSOR ON
353 332 choice = "n"
354 0 DO WHILE .NOT. (choice 0 "0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ")
355 0 ON KEY LABEL 61 DO NIP WITH "nain"
356 choice = ""
357 0 14.42 GET choice PICTURE "I"
358 READ
359 ENDDO
360 SET INTENSITY ON
361 ""
362 --Number becomes first letter of menu selection.
363 340 341 IF choice 0 "01234567"
364 choice = SUBSTR("ABCDEFGHIJKLMNOPQRSTUVWXYZ",VAL( choice ) + 1,1)
365 342 343 ENDOIF
364 344 RETURN
365 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

```

```

436 n1      Called by: NP5SC.PRS
437 n1
438 n1
439 n1      Calls: DEF_BU
440 n1      (procedure in NP4_PROC.PRS)
441 n1
442 PROCEDURE with:
443   -- Backup databases prior to quitting
444 PRIVATE RDB:orig,buf
445 RDB = 17
446 SET CURSOR OFF
447 SET CUR TO IN/M/N/U
448 G 16.0 CLEAR TO 23.79
449 G 16.0 SAY "Backing up databases files to hard disk ..."
450 SELECT 1
451 SET ORDER TO 1
452 orig = "VENDERS.DBF"
453 buf = "DEF_BU.DBF"
454 DO def_bu WITH RDB,orig,buf
455 SELECT 2
456 SET ORDER TO 1
457 orig = "ACTIVITY.DBF"
458 buf = "ACT_BU.DBF"
459 DO def_bu WITH RDB,orig,buf
460 SELECT 3
461 SET ORDER TO 1
462 orig = "CURRENT.DBF"
463 buf = "CUR_BU.DBF"
464 DO def_bu WITH RDB,orig,buf
465 SELECT 4
466 orig = "DIRECTOR.DBF"
467 buf = "DIR_BU.DBF"
468 DO def_bu WITH RDB,orig,buf
469 RETURN
470 n1 EOF: NP5SC.PRS

```

```

1 1. *****
2 2. *****
3 3. *****
4 4. *****
5 5. *****
6 6. *****
7 7. *****
8 8. *****
9 9. *****
10 10. *****
11 11. *****
12 12. *****
13 13. *****
14 14. *****
15 15. *****
16 16. *****
17 17. *****
18 18. *****
19 19. *****
20 20. *****
21 21. *****
22 22. *****
23 23. *****
24 24. *****
25 25. *****
26 26. *****
27 27. *****
28 28. *****
29 29. *****
30 30. *****
31 31. *****
32 32. *****
33 33. *****
34 34. *****
35 35. *****
36 36. *****
37 37. *****
38 38. *****
39 39. *****
40 40. *****
41 41. *****
42 42. *****
43 43. *****
44 44. *****
45 45. *****
46 46. *****
47 47. *****
48 48. *****
49 49. *****
50 50. *****
51 51. *****
52 52. *****
53 53. *****
54 54. *****
55 55. *****
56 56. *****
57 57. *****
58 58. *****
59 59. *****
60 60. *****
61 61. *****
62 62. *****
63 63. *****
64 64. *****
65 65. *****
66 66. *****
67 67. *****
68 68. *****
69 69. *****
70 70. *****
71 71. *****
72 72. *****
73 73. *****
74 74. *****
75 75. *****
76 76. *****
77 77. *****
78 78. *****
79 79. *****
80 80. *****
81 81. *****
82 82. *****
83 83. *****
84 84. *****
85 85. *****
86 86. *****
87 87. *****
88 88. *****
89 89. *****
90 90. *****

```

```

91 91. *****
92 92. *****
93 93. *****
94 94. *****
95 95. *****
96 96. *****
97 97. *****
98 98. *****
99 99. *****
100 100. *****
101 101. *****
102 102. *****
103 103. *****
104 104. *****
105 105. *****
106 106. *****
107 107. *****
108 108. *****
109 109. *****
110 110. *****
111 111. *****
112 112. *****
113 113. *****
114 114. *****
115 115. *****
116 116. *****
117 117. *****
118 118. *****
119 119. *****
120 120. *****
121 121. *****
122 122. *****
123 123. *****
124 124. *****
125 125. *****
126 126. *****
127 127. *****
128 128. *****
129 129. *****
130 130. *****
131 131. *****
132 132. *****
133 133. *****
134 134. *****
135 135. *****
136 136. *****
137 137. *****
138 138. *****
139 139. *****
140 140. *****
141 141. *****
142 142. *****
143 143. *****
144 144. *****
145 145. *****
146 146. *****
147 147. *****
148 148. *****
149 149. *****
150 150. *****
151 151. *****
152 152. *****
153 153. *****
154 154. *****
155 155. *****
156 156. *****
157 157. *****
158 158. *****
159 159. *****
160 160. *****
161 161. *****
162 162. *****
163 163. *****
164 164. *****
165 165. *****
166 166. *****
167 167. *****
168 168. *****
169 169. *****
170 170. *****
171 171. *****
172 172. *****
173 173. *****
174 174. *****
175 175. *****
176 176. *****
177 177. *****
178 178. *****
179 179. *****
180 180. *****

```

```

89 INDEX ON CURR_nus TAG CURR_nus ADDITIVE
90 INDEX ON members TAG members ADDITIVE
91 INDEX ON relat1 TAG relat1 ADDITIVE
92 WAIT -- TIMEOUT 1
93 QUITF
94 SET ORDER TO 1
95 n ---On initial startup check
96 IF ( ! cur_checks )
97 n ---Check if sufficient database available
98 DO status-check
99 n ---Check members class to 4 if full 12 min since last_12
100 DO update
101 QUITF
102 n ---Open activity database file.
103 IF NOT FILE("ACTIVITY.DBF")
104 MISSING.dbf = "ACTIVITY.DBF"
105 no_def = .T.
106 DO warn.dbf WITH MISSING.dbf
107 RETURN
108 QUITF
109 SELECT 2
110 USE ACTIVITY
111 n ---Open INDEX file.
112 IF NOT FILE("ACTIVITY.CBI")
113 n ---On 0 say (creating structural index "ACTIVITY.CBI" ... )
114 INDEX ON nus TAG act_alc ADDITIVE
115 WAIT -- TIMEOUT 1
116 QUITF
117 SET ORDER TO 1
118 n ---Open curriculum database file.
119 IF NOT FILE("CURRICUL.DBF")
120 MISSING.dbf = "CURRICUL.DBF"
121 no_def = .T.
122 DO warn.dbf WITH MISSING.dbf
123 RETURN
124 QUITF
125 SELECT 3
126 USE CURRICUL
127 n ---Open INDEX file.
128 IF NOT FILE("CURRICUL.CBI")
129 n ---On 0 say (creating structural index "CURRICUL.CBI" ... )
130 INDEX ON cur_nus TAG cur_nus ADDITIVE
131 QUITF
132 SET ORDER TO 1
133 n ---Open director database file.
134 IF NOT FILE("DIRECTOR.DBF")
135 MISSING.dbf = "DIRECTOR.DBF"
136 no_def = .T.
137 DO warn.dbf WITH MISSING.dbf
138 RETURN
139 QUITF
140 SELECT 4
141 USE DIRECTOR
142 n ---Open nos.alc database file.
143 IF NOT FILE("nos.alc.dbf")
144 SET COLOR TO M/M
145 WAIT CHR(7)
146 n ---"nos.nisc.dbf" not found. Prepare exiting ... WINDOW TIMEOUT 2
147 CLEAR
148 0 0 0 SAY "nos.nisc.dbf file not found. Check the User's Manual ..."
149 COLOR M/M,M/M
150 CLOSE ALL
151 QUITF
152 SELECT 5
153 USE nos.nisc
154 n ---Set relation(1).
155 SET RELATION TO :T.
156 SET ORDER 2
157 SET RELATION TO cur_nus INTO members ADDITIVE
158 SET ORDER 3
159 SET RELATION TO cur_nus INTO members ADDITIVE
160 SELECT 1
161 n ---save environment to view file 1.
162 CREATE VIEW relat1 FROM ENVIRONMENT
163 norelat = .F.
164 QUITF
165 CLOSE DATABASES
166 n ---Set up second environment
167 IF NOT FILE("RELATE2.VUE") .OR. norelat2 = .T.
168 SELECT 1
169 USE members ORDER 1
170 USE ACTIVITY IN B ORDER 1
171 SET RELATION OFF INTO members
172 USE CURRICUL IN C ORDER 1
173 SET RELATION OFF INTO members
174 USE DIRECTOR IN D
175 USE nos.alc IN E

```

[illegible]

```

89  * ---Check for duplicate key in master file.
90  SEEK endr
91  IF EOF?
92  * ---No duplicate key found, so leave.
93  EXIT
94  ELSE
95  * ---Found a duplicate record in the file.
96  DO CASE
97  CASE choice = "1"
98  WAIT "DUPLICATE SM. Change value to proceed." WINDOW TIMEOUT
99  * ---
100  CASE choice = "2"
101  WAIT "DUPLICATE UIC. Change value to proceed." WINDOW TIMEOUT
102  * ---
103  CASE choice = "3"
104  WAIT "DUPLICATE CURRICULUM. Change value to proceed." ;
105  WINDOW TIMEOUT 2
106  * ---
107  ENDCASE
108  ENDOF
109  IF isolated
110  * ---
111  ELSE
112  DO res.ans
113  * --- prompts for field inputs
114  ENDOF
115  DO stallion WITH lastrec+recnumofs,isolated
116  * ---stop until Add, Edit, or Finish is selected.
117  DO WHILE T
118  SET CURSOR OFF
119  @ 0,0 SAY "APPEND, (Return),Add-another (E)dit (F)inished *";
120  @ 0,1 "Q"1,"SPACES(24) COLOR W/ME
121  DO getkey WITH choice,"EF"delrecord+returnkey
122  DO CASE
123  CASE choice = delrecord
124  * ---Toggle Isolated flag.
125  isolated = NOT isolated
126  DO stallion WITH lastrec+recnumofs,isolated
127  * ---
128  CASE choice = "E"
129  * ---do edit the record.
130  isolated = F.
131  SET CURSOR ON
132  CASE choice = "F",returnkey
133  * ---Finished, Add-another.
134  IF NOT isolated
135  DO res.check
136  * ---
137  IF isolated, @8, LAST.EXT() = 27
138  * ---Reset offset so as not to increment.
139  recnumofs = recnumofs - 1
140  * ---
141  ELSE
142  * ---Save the master values.
143  APPEND BLANK
144  DO res.reset
145  isolated = F.
146  SET CURSOR ON
147  ENDOF
148  ENDCASE
149  * ---Condition to exit inner loop.
150  IF choice = "EF",returnkey
151  EXIT
152  ENDOF
153  ENDOO
154  * ---Condition to exit outer loop.
155  IF choice = "F"
156  * ---
157  * ---
158  * ---CLOSE DATABASES
159  * ---SET VIEW TO RELATE!
160  * ---SELECT Subarea
161  * ---
162  * ---
163  * ---
164  * ---
165  * ---
166  * ---
167  * ---RETURN
168  * ---
169  * ---
170  * ---
171  * ---
172  * ---
173  * ---
174  * ---
175  * ---
176  * ---
177  * ---
178  * ---
179  * ---
180  * ---
181  * ---
182  * ---
183  * ---
184  * ---
185  * ---
186  * ---
187  * ---
188  * ---
189  * ---
190  * ---
191  * ---
192  * ---
193  * ---
194  * ---
195  * ---
196  * ---
197  * ---
198  * ---
199  * ---
200  * ---
201  * ---
202  * ---
203  * ---
204  * ---
205  * ---
206  * ---
207  * ---
208  * ---
209  * ---
210  * ---
211  * ---
212  * ---
213  * ---
214  * ---
215  * ---
216  * ---
217  * ---
218  * ---
219  * ---
220  * ---
221  * ---
222  * ---
223  * ---
224  * ---
225  * ---
226  * ---
227  * ---
228  * ---
229  * ---
230  * ---
231  * ---
232  * ---
233  * ---
234  * ---
235  * ---
236  * ---
237  * ---
238  * ---
239  * ---
240  * ---
241  * ---
242  * ---
243  * ---
244  * ---
245  * ---
246  * ---
247  * ---
248  * ---
249  * ---
250  * ---
251  * ---
252  * ---
253  * ---
254  * ---
255  * ---
256  * ---
257  * ---
258  * ---
259  * ---
260  * ---
261  * ---
262  * ---
263  * ---
264  * ---
265  * ---
266  * ---
267  * ---
268  * ---
269  * ---
270  * ---
271  * ---
272  * ---
273  * ---
274  * ---
275  * ---
276  * ---
277  * ---
278  * ---
279  * ---
280  * ---
281  * ---
282  * ---
283  * ---
284  * ---
285  * ---
286  * ---
287  * ---
288  * ---
289  * ---
290  * ---
291  * ---
292  * ---
293  * ---
294  * ---
295  * ---
296  * ---
297  * ---
298  * ---
299  * ---
300  * ---
301  * ---
302  * ---
303  * ---
304  * ---
305  * ---
306  * ---
307  * ---
308  * ---
309  * ---
310  * ---
311  * ---
312  * ---
313  * ---
314  * ---
315  * ---
316  * ---
317  * ---
318  * ---
319  * ---
320  * ---
321  * ---
322  * ---
323  * ---
324  * ---
325  * ---
326  * ---
327  * ---
328  * ---
329  * ---
330  * ---
331  * ---
332  * ---
333  * ---
334  * ---
335  * ---
336  * ---
337  * ---
338  * ---
339  * ---
340  * ---
341  * ---
342  * ---
343  * ---
344  * ---
345  * ---
346  * ---
347  * ---
348  * ---
349  * ---
350  * ---
351  * ---
352  * ---
353  * ---
354  * ---
355  * ---
356  * ---
357  * ---
358  * ---
359  * ---
360  * ---
361  * ---
362  * ---
363  * ---
364  * ---
365  * ---
366  * ---
367  * ---
368  * ---
369  * ---
370  * ---
371  * ---
372  * ---
373  * ---
374  * ---
375  * ---
376  * ---
377  * ---
378  * ---
379  * ---
380  * ---
381  * ---
382  * ---
383  * ---
384  * ---
385  * ---
386  * ---
387  * ---
388  * ---
389  * ---
390  * ---
391  * ---
392  * ---
393  * ---
394  * ---
395  * ---
396  * ---
397  * ---
398  * ---
399  * ---
400  * ---
401  * ---
402  * ---
403  * ---
404  * ---
405  * ---
406  * ---
407  * ---
408  * ---
409  * ---
410  * ---
411  * ---
412  * ---
413  * ---
414  * ---
415  * ---
416  * ---
417  * ---
418  * ---
419  * ---
420  * ---
421  * ---
422  * ---
423  * ---
424  * ---
425  * ---
426  * ---
427  * ---
428  * ---
429  * ---
430  * ---
431  * ---
432  * ---
433  * ---
434  * ---
435  * ---
436  * ---
437  * ---
438  * ---
439  * ---
440  * ---
441  * ---
442  * ---
443  * ---
444  * ---
445  * ---
446  * ---
447  * ---
448  * ---
449  * ---
450  * ---
451  * ---
452  * ---
453  * ---
454  * ---
455  * ---
456  * ---
457  * ---
458  * ---
459  * ---
460  * ---
461  * ---
462  * ---
463  * ---
464  * ---
465  * ---
466  * ---
467  * ---
468  * ---
469  * ---
470  * ---
471  * ---
472  * ---
473  * ---
474  * ---
475  * ---
476  * ---
477  * ---
478  * ---
479  * ---
480  * ---
481  * ---
482  * ---
483  * ---
484  * ---
485  * ---
486  * ---
487  * ---
488  * ---
489  * ---
490  * ---
491  * ---
492  * ---
493  * ---
494  * ---
495  * ---
496  * ---
497  * ---
498  * ---
499  * ---
500  * ---
501  * ---
502  * ---
503  * ---
504  * ---
505  * ---
506  * ---
507  * ---
508  * ---
509  * ---
510  * ---
511  * ---
512  * ---
513  * ---
514  * ---
515  * ---
516  * ---
517  * ---
518  * ---
519  * ---
520  * ---
521  * ---
522  * ---
523  * ---
524  * ---
525  * ---
526  * ---
527  * ---
528  * ---
529  * ---
530  * ---
531  * ---
532  * ---
533  * ---
534  * ---
535  * ---
536  * ---
537  * ---
538  * ---
539  * ---
540  * ---
541  * ---
542  * ---
543  * ---
544  * ---
545  * ---
546  * ---
547  * ---
548  * ---
549  * ---
550  * ---
551  * ---
552  * ---
553  * ---
554  * ---
555  * ---
556  * ---
557  * ---
558  * ---
559  * ---
560  * ---
561  * ---
562  * ---
563  * ---
564  * ---
565  * ---
566  * ---
567  * ---
568  * ---
569  * ---
570  * ---
571  * ---
572  * ---
573  * ---
574  * ---
575  * ---
576  * ---
577  * ---
578  * ---
579  * ---
580  * ---
581  * ---
582  * ---
583  * ---
584  * ---
585  * ---
586  * ---
587  * ---
588  * ---
589  * ---
590  * ---
591  * ---
592  * ---
593  * ---
594  * ---
595  * ---
596  * ---
597  * ---
598  * ---
599  * ---
600  * ---
601  * ---
602  * ---
603  * ---
604  * ---
605  * ---
606  * ---
607  * ---
608  * ---
609  * ---
610  * ---
611  * ---
612  * ---
613  * ---
614  * ---
615  * ---
616  * ---
617  * ---
618  * ---
619  * ---
620  * ---
621  * ---
622  * ---
623  * ---
624  * ---
625  * ---
626  * ---
627  * ---
628  * ---
629  * ---
630  * ---
631  * ---
632  * ---
633  * ---
63
```

MP3 APPE.PAG 1 of 2

```

242 WINDOW TIMEOUT 2
243 isolated = .T.
244 ENDIF
245 CASE objarea = "3"
246 IF LEN(ALLTRIM(secr_name)) < 3) OR (EMPTY(ALLTRIM(secr_name)))
247   ?? Chr(7)
248   WAIT "Incomplete or missing data. Record not saved."
249   WINDOW TIMEOUT 2
250   isolated = .T.
251 ENDIF
252 DECF
253 RETURN
254 * EOF, MPS_APPE.PRG

```

```

1 1. *****
2 2.
3 3.
4 4.
5 5. Procedure Allen C. VITAS NPS_EDIT.PRG
6 6.
7 7. Press & Enter: DIRECTOR
8 8.
9 9. UPDATEREC
10 10.
11 11. Set by: NPS_EDIT.PRG
12 12.
13 13. Call: NPS_EDIT.PRG
14 14.
15 15. Procedure in NPS_EDIT.PRG
16 16.
17 17. NPS_EDIT.PRG
18 18.
19 19. NPS_EDIT.PRG
20 20.
21 21. NPS_EDIT.PRG
22 22.
23 23. NPS_EDIT.PRG
24 24.
25 25. NPS_EDIT.PRG
26 26.
27 27. UPDATEREC
28 28.
29 29.
30 30.
31 31.
32 32.
33 33.
34 34.
35 35.
36 36.
37 37.
38 38.
39 39.
40 40.
41 41.
42 42.
43 43.
44 44.
45 45.
46 46.
47 47.
48 48.
49 49.
50 50.
51 51.
52 52.
53 53.
54 54.
55 55.
56 56.
57 57.
58 58.
59 59.
60 60.
61 61.
62 62.
63 63.
64 64.
65 65.
66 66.
67 67.
68 68.
69 69.
70 70.
71 71.
72 72.
73 73.
74 74.
75 75.
76 76.
77 77.
78 78.
79 79.
80 80.
81 81.
82 82.
83 83.
84 84.
85 85.
86 86.
87 87.
88 88.

```

```

89 89.
90 90.
91 91.
92 92.
93 93.
94 94.
95 95.
96 96.
97 97.
98 98.
99 99.
100 100.
101 101.
102 102.
103 103.
104 104.
105 105.
106 106.
107 107.
108 108.
109 109.
110 110.
111 111.
112 112.
113 113.
114 114.
115 115.
116 116.
117 117.
118 118.
119 119.
120 120.
121 121.
122 122.
123 123.
124 124.
125 125.
126 126.
127 127.
128 128.
129 129.
130 130.
131 131.
132 132.
133 133.
134 134.
135 135.
136 136.
137 137.
138 138.
139 139.
140 140.
141 141.
142 142.
143 143.
144 144.
145 145.
146 146.
147 147.
148 148.
149 149.
150 150.
151 151.
152 152.
153 153.
154 154.
155 155.
156 156.
157 157.
158 158.
159 159.
160 160.
161 161.
162 162.
163 163.
164 164.
165 165.
166 166.
167 167.
168 168.
169 169.
170 170.
171 171.
172 172.
173 173.
174 174.
175 175.
176 176.

```

```

177 177.
178 178.
179 179.
180 180.
181 181.
182 182.
183 183.
184 184.
185 185.
186 186.
187 187.
188 188.
189 189.
190 190.
191 191.
192 192.
193 193.
194 194.
195 195.
196 196.
197 197.
198 198.
199 199.
200 200.
201 201.
202 202.
203 203.
204 204.
205 205.
206 206.
207 207.
208 208.
209 209.
210 210.
211 211.
212 212.
213 213.
214 214.
215 215.
216 216.
217 217.
218 218.
219 219.
220 220.
221 221.
222 222.
223 223.
224 224.
225 225.
226 226.
227 227.
228 228.
229 229.
230 230.
231 231.
232 232.
233 233.
234 234.

```


[illegible]

enter symbol

see excluded for speed on 80286

find. =

trac


```

87 (recall_3 < GCONTH(DATE(1), -1)*8) +
88 (recall_4 < GCONTH(1, -1))
89 CNT = "4"
90 DO gorcalls
91 N ---be recall at beginning of 12th month since last_12
92 SET FILTER TO (last_12 < GCONTH(1, -12)) +
93 AND (members_recall_2 < GCONTH(1, -1)*8) +
94 AND (NOT DPTPT(recall_3)) AND (DPTPT(recall_3))
95 CNT = "3"
96 DO gorcalls
97 N ---be recall at beginning of 12th month since last_12
98 SET FILTER TO (last_12 < GCONTH(1, -12)) +
99 AND (members_recall_1 < GCONTH(1, -1)*8) +
100 AND (NOT DPTPT(recall_1)) AND (DPTPT(recall_1))
101 CNT = "2"
102 DO gorcalls
103 N ---be recall at beginning of 12th month since last_12
104 SET FILTER TO (last_12 < GCONTH(1, -12)) +
105 AND (members_recall_1 < GCONTH(1, -1)*8) +
106 AND (NOT DPTPT(recall_1)) AND (DPTPT(recall_1))
107 CNT = "1"
108 DO gorcalls
109 recIntent = F.
110 ENDDO
111 SET CURSOR ON
112 ENDIF
113 ENDOF
114 ON KEY = 315
115 SET FILTER TO
116 SET TESTNAME TO
117 CASE choice = "2" OR choice = "R"
118 SET CURSOR OFF
119 SET COLOR TO W/N
120 DO rec_lists
121 CASE choice = "3" OR choice = "Y"
122 SET CURSOR OFF
123 SET COLOR TO W/N
124 @ 24,0 SAY "WORKING ..." COLOR W/N
125 DO ops_crc
126 ENDCASE
127 ENDDO
128 IF
129 @ 129,0
130 Procedure: RECALLS_MENU
131
132 @ 131,0
133 Called by: MPS_RECA.PRG
134
135 @ 133,0
136
137 @ 137,0
138 PROCEDURE recalls_menu
139
140 @ 140,0
141 PRIVATE CL
142 CLEAR
143
144 @ 144,0
145 0.40 SAY DATE(1) COLOR W/N
146 0.48 SAY " " COLOR W/N
147 N ---Center the menu heading.
148 @ 148,0
149 @ 149,0
150 @ 150,0
151 @ 151,0
152 @ 152,0
153 @ 153,0
154 @ 154,0
155 @ 155,0
156 @ 156,0
157 @ 157,0
158 @ 158,0
159 @ 159,0
160 @ 160,0
161 @ 161,0
162 @ 162,0
163 @ 163,0
164 @ 164,0
165 @ 165,0
166 @ 166,0
167 @ 167,0
168 @ 168,0
169 @ 169,0
170 @ 170,0
171 @ 171,0
172 @ 172,0
173 @ 173,0
174 @ 174,0
175 @ 175,0
176 @ 176,0
177 @ 177,0
178 @ 178,0
179 @ 179,0
180 @ 180,0
181 @ 181,0
182 @ 182,0
183 @ 183,0
184 @ 184,0
185 @ 185,0
186 @ 186,0
187 @ 187,0
188 @ 188,0
189 @ 189,0
190 @ 190,0
191 @ 191,0
192 @ 192,0
193 @ 193,0
194 @ 194,0
195 @ 195,0
196 @ 196,0
197 @ 197,0
198 @ 198,0
199 @ 199,0
200 @ 200,0
201 @ 201,0
202 @ 202,0
203 @ 203,0
204 @ 204,0
205 @ 205,0
206 @ 206,0
207 @ 207,0
208 @ 208,0
209 @ 209,0
210 @ 210,0
211 @ 211,0
212 @ 212,0
213 @ 213,0
214 @ 214,0
215 @ 215,0
216 @ 216,0
217 @ 217,0
218 @ 218,0
219 @ 219,0
220 @ 220,0
221 @ 221,0
222 @ 222,0
223 @ 223,0
224 @ 224,0
225 @ 225,0
226 @ 226,0
227 @ 227,0
228 @ 228,0
229 @ 229,0
230 @ 230,0
231 @ 231,0
232 @ 232,0
233 @ 233,0
234 @ 234,0
235 @ 235,0
236 @ 236,0
237 @ 237,0
238 @ 238,0
239 @ 239,0
240 @ 240,0
241 @ 241,0
242 @ 242,0
243 @ 243,0
244 @ 244,0
245 @ 245,0
246 @ 246,0
247 @ 247,0
248 @ 248,0
249 @ 249,0
250 @ 250,0
251 @ 251,0
252 @ 252,0
253 @ 253,0
254 @ 254,0
255 @ 255,0
256 @ 256,0
257 @ 257,0
258 @ 258,0
259 @ 259,0
260 @ 260,0
261 @ 261,0
262 @ 262,0
263 @ 263,0
264 @ 264,0
265 @ 265,0
266 @ 266,0
267 @ 267,0
268 @ 268,0
269 @ 269,0
270 @ 270,0
271 @ 271,0
272 @ 272,0
273 @ 273,0
274 @ 274,0
275 @ 275,0
276 @ 276,0
277 @ 277,0
278 @ 278,0
279 @ 279,0
280 @ 280,0
281 @ 281,0
282 @ 282,0
283 @ 283,0
284 @ 284,0
285 @ 285,0
286 @ 286,0
287 @ 287,0
288 @ 288,0
289 @ 289,0
290 @ 290,0
291 @ 291,0
292 @ 292,0
293 @ 293,0
294 @ 294,0
295 @ 295,0
296 @ 296,0
297 @ 297,0
298 @ 298,0
299 @ 299,0
300 @ 300,0
301 @ 301,0
302 @ 302,0
303 @ 303,0
304 @ 304,0
305 @ 305,0
306 @ 306,0
307 @ 307,0
308 @ 308,0
309 @ 309,0
310 @ 310,0
311 @ 311,0
312 @ 312,0
313 @ 313,0
314 @ 314,0
315 @ 315,0
316 @ 316,0
317 @ 317,0
318 @ 318,0
319 @ 319,0
320 @ 320,0
321 @ 321,0
322 @ 322,0
323 @ 323,0
324 @ 324,0
325 @ 325,0
326 @ 326,0
327 @ 327,0
328 @ 328,0
329 @ 329,0
330 @ 330,0
331 @ 331,0
332 @ 332,0
333 @ 333,0
334 @ 334,0
335 @ 335,0
336 @ 336,0
337 @ 337,0
338 @ 338,0
339 @ 339,0
340 @ 340,0
341 @ 341,0
342 @ 342,0
343 @ 343,0
344 @ 344,0
345 @ 345,0
346 @ 346,0
347 @ 347,0
348 @ 348,0
349 @ 349,0
350 @ 350,0
351 @ 351,0
352 @ 352,0
353 @ 353,0
354 @ 354,0
355 @ 355,0
356 @ 356,0
357 @ 357,0
358 @ 358,0
359 @ 359,0
360 @ 360,0
361 @ 361,0
362 @ 362,0
363 @ 363,0
364 @ 364,0
365 @ 365,0
366 @ 366,0
367 @ 367,0
368 @ 368,0
369 @ 369,0
370 @ 370,0
371 @ 371,0
372 @ 372,0
373 @ 373,0
374 @ 374,0
375 @ 375,0
376 @ 376,0
377 @ 377,0
378 @ 378,0
379 @ 379,0
380 @ 380,0
381 @ 381,0
382 @ 382,0
383 @ 383,0
384 @ 384,0
385 @ 385,0
386 @ 386,0
387 @ 387,0
388 @ 388,0
389 @ 389,0
390 @ 390,0
391 @ 391,0
392 @ 392,0
393 @ 393,0
394 @ 394,0
395 @ 395,0
396 @ 396,0
397 @ 397,0
398 @ 398,0
399 @ 399,0
400 @ 400,0
401 @ 401,0
402 @ 402,0
403 @ 403,0
404 @ 404,0
405 @ 405,0
406 @ 406,0
407 @ 407,0
408 @ 408,0
409 @ 409,0
410 @ 410,0
411 @ 411,0
412 @ 412,0
413 @ 413,0
414 @ 414,0
415 @ 415,0
416 @ 416,0
417 @ 417,0
418 @ 418,0
419 @ 419,0
420 @ 420,0
421 @ 421,0
422 @ 422,0
423 @ 423,0
424 @ 424,0
425 @ 425,0
426 @ 426,0
427 @ 427,0
428 @ 428,0
429 @ 429,0
430 @ 430,0
431 @ 431,0
432 @ 432,0
433 @ 433,0
434 @ 434,0
435 @ 435,0
436 @ 436,0
437 @ 437,0
438 @ 438,0
439 @ 439,0
440 @ 440,0
441 @ 441,0
442 @ 442,0
443 @ 443,0
444 @ 444,0
445 @ 445,0
446 @ 446,0
447 @ 447,0
448 @ 448,0
449 @ 449,0
450 @ 450,0
451 @ 451,0
452 @ 45
```

NPS_RECA.PRG 1 of 3

```

240 ON ESCAPE GOTO 241
241 ENDIF
242 ENDIF
243 ON KEY = 315 GOTO 244
244 SET ESCAPE OFF
245 RETURN
246 IF NOT (PROCEDURE IN MPS_RECA.PRG)
247 CALL GONCALLS
248 CALL BY MPS_RECA.PRG
249 CALLS SETPRN
250 CALLS SETPRN
251 CALLS SETPRN
252 CALLS SETPRN
253 CALLS SETPRN
254 CALLS SETPRN
255 CALLS SETPRN
256 CALLS SETPRN
257 CALLS SETPRN
258 CALLS SETPRN
259 CALLS SETPRN
260 CALLS SETPRN
261 CALLS SETPRN
262 CALLS SETPRN
263 CALLS SETPRN
264 CALLS SETPRN
265 CALLS SETPRN
266 CALLS SETPRN
267 CALLS SETPRN
268 CALLS SETPRN
269 CALLS SETPRN
270 CALLS SETPRN
271 CALLS SETPRN
272 CALLS SETPRN
273 CALLS SETPRN
274 CALLS SETPRN
275 CALLS SETPRN
276 CALLS SETPRN
277 CALLS SETPRN
278 CALLS SETPRN
279 CALLS SETPRN
280 CALLS SETPRN
281 CALLS SETPRN
282 CALLS SETPRN
283 CALLS SETPRN
284 CALLS SETPRN
285 CALLS SETPRN
286 CALLS SETPRN
287 CALLS SETPRN
288 CALLS SETPRN
289 CALLS SETPRN
290 CALLS SETPRN
291 CALLS SETPRN
292 CALLS SETPRN
293 CALLS SETPRN
294 CALLS SETPRN
295 CALLS SETPRN
296 CALLS SETPRN
297 CALLS SETPRN
298 CALLS SETPRN
299 CALLS SETPRN
300 CALLS SETPRN
301 CALLS SETPRN
302 CALLS SETPRN
303 CALLS SETPRN
304 CALLS SETPRN
305 CALLS SETPRN
306 CALLS SETPRN
307 CALLS SETPRN
308 CALLS SETPRN
309 CALLS SETPRN
310 CALLS SETPRN
311 CALLS SETPRN
312 CALLS SETPRN
313 CALLS SETPRN
314 CALLS SETPRN
315 CALLS SETPRN
316 CALLS SETPRN
317 CALLS SETPRN
318 CALLS SETPRN
319 CALLS SETPRN
320 CALLS SETPRN
321 CALLS SETPRN
322 CALLS SETPRN
323 CALLS SETPRN
324 CALLS SETPRN
325 CALLS SETPRN
326 CALLS SETPRN
327 CALLS SETPRN
328 CALLS SETPRN
329 CALLS SETPRN
330 CALLS SETPRN
331 CALLS SETPRN
332 CALLS SETPRN
333 CALLS SETPRN
334 CALLS SETPRN
335 CALLS SETPRN
336 CALLS SETPRN
337 CALLS SETPRN
338 CALLS SETPRN
339 CALLS SETPRN
340 CALLS SETPRN
341 CALLS SETPRN
342 CALLS SETPRN
343 CALLS SETPRN
344 CALLS SETPRN
345 CALLS SETPRN
346 CALLS SETPRN

```

```

347 keystrokes = "EFGH"uparrowdownarrowrightarrowleftarrowrightarrowright
348 rowtop = 4
349 rowbottom = 21
350 rowcount = rowbottom - rowtop + 2
351 skiprows = rowbottom - rowcount + 1
352 GOTO TOP
353 IF NOT (PROCEDURE IN MPS_RECA.PRG)
354 CALL GONCALLS
355 CALL BY MPS_RECA.PRG
356 CALLS SETPRN
357 CALLS SETPRN
358 CALLS SETPRN
359 CALLS SETPRN
360 CALLS SETPRN
361 CALLS SETPRN
362 CALLS SETPRN
363 CALLS SETPRN
364 CALLS SETPRN
365 CALLS SETPRN
366 CALLS SETPRN
367 CALLS SETPRN
368 CALLS SETPRN
369 CALLS SETPRN
370 CALLS SETPRN
371 CALLS SETPRN
372 CALLS SETPRN
373 CALLS SETPRN
374 CALLS SETPRN
375 CALLS SETPRN
376 CALLS SETPRN
377 CALLS SETPRN
378 CALLS SETPRN
379 CALLS SETPRN
380 CALLS SETPRN
381 CALLS SETPRN
382 CALLS SETPRN
383 CALLS SETPRN
384 CALLS SETPRN
385 CALLS SETPRN
386 CALLS SETPRN
387 CALLS SETPRN
388 CALLS SETPRN
389 CALLS SETPRN
390 CALLS SETPRN
391 CALLS SETPRN
392 CALLS SETPRN
393 CALLS SETPRN
394 CALLS SETPRN
395 CALLS SETPRN
396 CALLS SETPRN
397 CALLS SETPRN
398 CALLS SETPRN
399 CALLS SETPRN
400 CALLS SETPRN
401 CALLS SETPRN
402 CALLS SETPRN
403 CALLS SETPRN
404 CALLS SETPRN
405 CALLS SETPRN
406 CALLS SETPRN
407 CALLS SETPRN
408 CALLS SETPRN
409 CALLS SETPRN
410 CALLS SETPRN
411 CALLS SETPRN
412 CALLS SETPRN
413 CALLS SETPRN
414 CALLS SETPRN
415 CALLS SETPRN
416 CALLS SETPRN
417 CALLS SETPRN
418 CALLS SETPRN
419 CALLS SETPRN
420 CALLS SETPRN
421 CALLS SETPRN
422 CALLS SETPRN
423 CALLS SETPRN
424 CALLS SETPRN
425 CALLS SETPRN
426 CALLS SETPRN
427 CALLS SETPRN
428 CALLS SETPRN
429 CALLS SETPRN
430 CALLS SETPRN
431 CALLS SETPRN
432 CALLS SETPRN
433 CALLS SETPRN
434 CALLS SETPRN

```

```

435 DO EDIT WITH ISOLATED
436 IF rowcount = rowbottom AND .NOT. ISOLATED
437 GOTO 438
438 SET COLOR TO W/N,N/W
439 CLEAR
440 GOTO rowcount
441 IF NOT (PROCEDURE IN MPS_RECA.PRG)
442 CALL GONCALLS
443 CALL BY MPS_RECA.PRG
444 CALLS SETPRN
445 CALLS SETPRN
446 CALLS SETPRN
447 CALLS SETPRN
448 CALLS SETPRN
449 CALLS SETPRN
450 CALLS SETPRN
451 CALLS SETPRN
452 CALLS SETPRN
453 CALLS SETPRN
454 CALLS SETPRN
455 CALLS SETPRN
456 CALLS SETPRN
457 CALLS SETPRN
458 CALLS SETPRN
459 CALLS SETPRN
460 CALLS SETPRN
461 CALLS SETPRN
462 CALLS SETPRN
463 CALLS SETPRN
464 CALLS SETPRN
465 CALLS SETPRN
466 CALLS SETPRN
467 CALLS SETPRN
468 CALLS SETPRN
469 CALLS SETPRN
470 CALLS SETPRN
471 CALLS SETPRN
472 CALLS SETPRN
473 CALLS SETPRN
474 CALLS SETPRN
475 CALLS SETPRN
476 CALLS SETPRN
477 CALLS SETPRN
478 CALLS SETPRN
479 CALLS SETPRN
480 CALLS SETPRN
481 CALLS SETPRN
482 CALLS SETPRN
483 CALLS SETPRN
484 CALLS SETPRN
485 CALLS SETPRN
486 CALLS SETPRN
487 CALLS SETPRN
488 CALLS SETPRN
489 CALLS SETPRN
490 CALLS SETPRN
491 CALLS SETPRN
492 CALLS SETPRN
493 CALLS SETPRN
494 CALLS SETPRN
495 CALLS SETPRN
496 CALLS SETPRN
497 CALLS SETPRN
498 CALLS SETPRN
499 CALLS SETPRN
500 CALLS SETPRN
501 CALLS SETPRN
502 CALLS SETPRN
503 CALLS SETPRN
504 CALLS SETPRN
505 CALLS SETPRN
506 CALLS SETPRN
507 CALLS SETPRN
508 CALLS SETPRN
509 CALLS SETPRN
510 CALLS SETPRN
511 CALLS SETPRN
512 CALLS SETPRN
513 CALLS SETPRN
514 CALLS SETPRN
515 CALLS SETPRN
516 CALLS SETPRN
517 CALLS SETPRN
518 CALLS SETPRN
519 CALLS SETPRN
520 CALLS SETPRN
521 CALLS SETPRN
522 CALLS SETPRN

```

[illegible]

```

901 select_senct2 = (senctsenct2/ntctsenct) * 100
902 clear
903 = (senctsenct3/ntctsenct) * 100
904
905 REPORT FORM clas.cts
906 @ 22,30 SAY "Print this report? (Y/N)"
907 SET CURSOR ON
908 @ 22,30 SAY "Y"
909 IF choice = "Y"
910   rtname = "clas.ctp"
911   ON KEY = 315 WAIT "Help not available" WINDOW TIMEOUT 1
912   DO prrct WITH rtname
913 ELSE
914   rtname = "all"
915   ON KEY = 315 WAIT "Help not available" WINDOW TIMEOUT 1
916   DO prrct WITH rtname
917
918 CASE choice = "2" .OR. choice = "H"
919   SET CURSOR OFF
920   SET COLOR TO W/N
921   n = ---All members
922   ON KEY = 315 WAIT "Help not available" WINDOW TIMEOUT 1
923   SELECT A
924   listtype = "all"
925   DO listtype
926   DO prrct WITH rtname
927
928 CASE choice = "3" .OR. choice = "C"
929   SET CURSOR OFF
930   SET COLOR TO W/N
931   n = ---Numbers by class
932   ON KEY = 315 WAIT "Help not available" WINDOW TIMEOUT 1
933   SELECT A
934   listtype = "cls"
935   DO listtype
936   DO prrct WITH rtname
937
938 CASE choice = "4" .OR. choice = "U"
939   SET CURSOR OFF
940   SET COLOR TO W/N
941   n = ---Numbers by UIC
942   ON KEY = 315 WAIT "Help not available" WINDOW TIMEOUT 1
943   SELECT A
944   listtype = "uic"
945   DO listtype
946   DO prrct WITH rtname
947
948 CASE choice = "5" .OR. choice = "P"
949   SET CURSOR OFF
950   SET COLOR TO W/N
951   n = ---All Activities
952   ON KEY = 315 WAIT "Help not available" WINDOW TIMEOUT 1
953   SELECT A
954   listtype = "pan"
955   DO listtype
956   DO prrct WITH rtname
957
958 CASE choice = "6" .OR. choice = "A"
959   SET CURSOR OFF
960   SET COLOR TO W/N
961   n = ---All Activities
962   ON KEY = 315 WAIT "Help not available" WINDOW TIMEOUT 1
963   SELECT B
964   rtname = "activity"
965   DO prrct WITH rtname
966
967 CASE choice = "7" .OR. choice = "R"
968   SET CURSOR OFF
969   SET COLOR TO W/N
970   n = ---All Curriculum
971   ON KEY = 315 WAIT "Help not available" WINDOW TIMEOUT 1
972   SELECT C
973   rtname = "curriculum"
974   DO prrct WITH rtname
975
976 END CASE
977
978 END DO
979
980 RETURN
981
982 Procedure: REPORT_MENU
983
984 Called by: MP5_REPO.PRG
985
986 Private COL_menuhide
987
988 CLEAR
989 @ 0,40 SAY DATE() COLOR M/N
990 @ 0,48 SAY " " COLOR M/N
991 @ ---Center the menu heading.
992 menuhide = "P T A R S   R E P O R T S   M E N U"
993 COL = (80 - LEN(menuhide)) / 2
994 @ 1,0 TO 14,79 DOUBLE COLOR G/N
995 @ 3,0 SAY " "
996 @ 3,40 SAY " "
997 @ 2,0 COL SAY menuhide COLOR GR/N
998

```

```

176 SET COLOR TO 40/NH/M/N
177 @ 5, 3 SAV " (F) for help"
178 @ 5, 8 SAV "Z" COLOR GR/N
179 @ 6, 3 SAV "Z" COLOR GR/N
180 @ 6, 4 SAV "Alt-F1" COLOR GR/N
181 COL = 34
182 @ 5,COL + 3 SAV "0. Exit to exit menu"
183 @ 6,COL + 3 SAV "Z" COLOR GR/N
184 @ 6,COL + 1, Operational readiness"
185 @ 6,COL + 3 SAV "Z" COLOR GR/N
186 @ 7,COL SAV "2. Numbers (all)"
187 @ 7,COL + 3 SAV "Z" COLOR GR/N
188 @ 8,COL SAV "3. members by class"
189 @ 8,COL + 14 SAV "C" COLOR GR/N
190 @ 9,COL SAV "4. members by UIC (all)"
191 @ 9,COL + 14 SAV "Z" COLOR GR/N
192 @ 10,COL SAV "5. members by Pass status"
193 @ 10,COL + 14 SAV "Z" COLOR GR/N
194 @ 11,COL SAV "4. Activities"
195 @ 11,COL + 3 SAV "A" COLOR GR/N
196 @ 12,COL SAV "7. Color/Colums"
197 @ 12,COL + 5 SAV "Z" COLOR GR/N
198 @ 13, 33 SAV "select : "
199 SET CURSOR ON
200 @ 14, 12 SAV ""
201 RETURN
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263

```


[illegible]

```

177 CASE mercont = "time change"
178   RUN TIME
179 ENDCASE
180 RELEASE POPUP data_time
181 RETURN
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

```



```

245 11      Calls: GETKEY      Procedure in MPS_PROG.PRG)
246 11      , MPS_PROG.PRG
247 11
248 11 ***** WARNING *****
249 11 ***** WARNING *****
250 11 ***** WARNING *****
251 11 ***** WARNING *****
252 11 ***** WARNING *****
253 11 ***** WARNING *****
254 11 ***** WARNING *****
255 11 ***** WARNING *****
256 11 ***** WARNING *****
257 11 ***** WARNING *****
258 11 ***** WARNING *****
259 11 ***** WARNING *****
260 11 ***** WARNING *****
261 11 ***** WARNING *****
262 11 ***** WARNING *****
263 11 ***** WARNING *****
264 11 ***** WARNING *****
265 11 ***** WARNING *****
266 11 ***** WARNING *****
267 11 ***** WARNING *****
268 11 ***** WARNING *****
269 11 ***** WARNING *****
270 11 ***** WARNING *****
271 11 ***** WARNING *****
272 11 ***** WARNING *****
273 11 ***** WARNING *****
274 11 ***** WARNING *****
275 11 ***** WARNING *****
276 11 ***** WARNING *****
277 11 ***** WARNING *****
278 11 ***** WARNING *****
279 11 ***** WARNING *****
280 11 ***** WARNING *****
281 11 ***** WARNING *****
282 11 ***** WARNING *****
283 11 ***** WARNING *****
284 11 ***** WARNING *****
285 11 ***** WARNING *****
286 11 ***** WARNING *****
287 11 ***** WARNING *****
288 11 ***** WARNING *****
289 11 ***** WARNING *****
290 11 ***** WARNING *****
291 11 ***** WARNING *****
292 11 ***** WARNING *****
293 11 ***** WARNING *****
294 11 ***** WARNING *****
295 11 ***** WARNING *****
296 11 ***** WARNING *****
297 11 ***** WARNING *****
298 11 ***** WARNING *****
299 11 ***** WARNING *****
300 11 ***** WARNING *****
301 11 ***** WARNING *****
302 11 ***** WARNING *****
303 11 ***** WARNING *****
304 11 ***** WARNING *****
305 11 ***** WARNING *****
306 11 ***** WARNING *****
307 11 ***** WARNING *****
308 11 ***** WARNING *****
309 11 ***** WARNING *****
310 11 ***** WARNING *****
311 11 ***** WARNING *****
312 11 ***** WARNING *****
313 11 ***** WARNING *****
314 11 ***** WARNING *****
315 11 ***** WARNING *****
316 11 ***** WARNING *****
317 11 ***** WARNING *****
318 11 ***** WARNING *****
319 11 ***** WARNING *****
320 11 ***** WARNING *****
321 11 ***** WARNING *****
322 11 ***** WARNING *****
323 11 ***** WARNING *****
324 11 ***** WARNING *****
325 11 ***** WARNING *****
326 11 ***** WARNING *****
327 11 ***** WARNING *****
328 11 ***** WARNING *****
329 11 ***** WARNING *****
330 11 ***** WARNING *****
331 11 ***** WARNING *****
332 11 ***** WARNING *****
333 11 ***** WARNING *****
334 11 ***** WARNING *****
335 11 ***** WARNING *****
336 11 ***** WARNING *****
337 11 ***** WARNING *****
338 11 ***** WARNING *****
339 11 ***** WARNING *****
340 11 ***** WARNING *****
341 11 ***** WARNING *****
342 11 ***** WARNING *****
343 11 ***** WARNING *****
344 11 ***** WARNING *****
345 11 ***** WARNING *****
346 11 ***** WARNING *****
347 11 ***** WARNING *****
348 11 ***** WARNING *****
349 11 ***** WARNING *****
350 11 ***** WARNING *****
351 11 ***** WARNING *****
352 11 ***** WARNING *****

```

```

353 11      mem = SPACE(1)
354 11      0 7.colset + 1 GET mem COLOR .1
355 11      READ
356 11      IF LASTKEY() = 27
357 11      SET CURSOR OFF
358 11      WAIT "Password change aborted." WINDOW TIMEOUT 1
359 11      SET CURSOR ON
360 11      CLEAR
361 11      EXIT
362 11      0 7.colset + 1 SAY ""
363 11      0 7.colset + 1 SAY ""
364 11      0 7.colset + 1 SAY ""
365 11      0 7.colset + 1 SAY ""
366 11      0 7.colset + 1 SAY ""
367 11      0 7.colset + 1 SAY ""
368 11      0 7.colset + 1 SAY ""
369 11      0 7.colset + 1 SAY ""
370 11      0 7.colset + 1 SAY ""
371 11      0 7.colset + 1 SAY ""
372 11      0 7.colset + 1 SAY ""
373 11      0 7.colset + 1 SAY ""
374 11      0 7.colset + 1 SAY ""
375 11      0 7.colset + 1 SAY ""
376 11      0 7.colset + 1 SAY ""
377 11      0 7.colset + 1 SAY ""
378 11      0 7.colset + 1 SAY ""
379 11      0 7.colset + 1 SAY ""
380 11      0 7.colset + 1 SAY ""
381 11      0 7.colset + 1 SAY ""
382 11      0 7.colset + 1 SAY ""
383 11      0 7.colset + 1 SAY ""

```

[illegible]

```

332 SET CURSOR ON
333 RETURN
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526

```

```

352 SET CURSOR ON
353 RETURN
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526

```

```

352 SET CURSOR ON
353 RETURN
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526

```



```

84 DOIF
87 *---Open original file
90 USE tempfile ORDER 1
99 COUNT FOR RELATED() TO deacc
90 NO CASE
91 CASE NOT deacc = 0
92   * 16.0 SAV (Renaming all UNDELETEM *) + origfile + [* records...]
93   WAIT "Continuing ... TImeOUT !
94   n ---PACK file.
95   * 15.0 CLEAR TO 23.79
96   * 16.0 SAV [copying *) + origfile + [*...]
97   DO deacc
98 OTHERWISE
99   * 15.0 CLEAR TO 23.79
100  * 16.0 SAV [*] + origfile + [* already packed)
101  WAIT "Continuing ... TImeOUT !
102  n ---SORT file.
103  * 15.0 CLEAR TO 23.79
104  * 16.0 SAV [Sorting *) + origfile + [*...]
105  DO deacc
106 DOKASE
107 RETURN
108 END
109 IF n=1 THEN PRINT "UNDELETED RECORDS IN INDEXED FILE ARE DELETED AND RECALCULATED" ELSE PRINT "RECALCULATED UNDELETED RECORDS IN INDEXED FILE"
110
111 Procedure: DOFNCK
112 Called by: PACK      (procedure in NPS_PACK.PRG)
113
114 Uses: STEPFILE.DBF
115       SORTFILE.DBF
116       SORTINDEX.DBF
117
118 IF n=1 THEN PRINT "UNDELETED RECORDS IN INDEXED FILE ARE DELETED AND RECALCULATED" ELSE PRINT "RECALCULATED UNDELETED RECORDS IN INDEXED FILE"
119 PROCEDURE deact
120 *---Copy undeleted records in order of index.
121 n ---The new database will be "SORTed" in index order.
122 SET BELIEVE ON
123 SET TALK ON
124 COPY TO tempfile
125 SET TALK OFF
126 SET BELIEVE OFF
127 *---Turn off the index and count the number of undeleted records.
128 COUNT FOR .NOT. BELIEVED() TO undeacs
129 *---Close original file.
130 USE
131 *---Use COPY TO temporary file successful?
132 IF NOT !deact = .F.
133 IF FILET(tempfile)
134 USE tempfile
135 *---The undeleted records in both files must match.
136 IF EOF1
137   deactile = (undeacrs = 0)
138 ELSE
139   deactile = (undeacrs + RECNO())
140   deactile = (undeacrs + RECNO())
141 ENDOF
142 USE
143 ENDOF
144 IF NOT !deactile
145 *---"TEMPFILE" was not created or has an incorrect record count.
146 ? CHR(17)
147 WAIT "This file could NOT be packed." WINDOW TIMEOUT 2
148 RETURN
149 ENDOF
150 *---Delete the original file and RENAME temporary to original
151 ERASE tempfile
152 RENOME tempfile TO sortfile
153 *---Delete original index and have calling program recreate it.
154 ERASE sortindex
155 RETURN
156 * EOF, NPS_PACK.PRG

```

For more information visit www.mcafee.com

(procedure in NPS PROC PAG)

263 ACTIVATE POPUP FUNCS

[illegible]

```

3532 CASE percent = "u43"
3533   CLEAR
3534   rcountop = RECDUP()
3535   SET DISP .AY TO EGAS3
3536   rcountop = 19
3537   CASE percent = "u43Z5"
3538     IF "CHR(7) = 0 SYS(2004)"
3539       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3540     ELSE
3541       CLEAR
3542       rcountop = RECDUP()
3543       SET DISPLAY TO W4Z5
3544       rcountop = 21
3545     ENDIF
3546   CASE percent = "u43Z6"
3547     IF "CHR(7) = 0 SYS(2004)"
3548       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3549     ELSE
3550       CLEAR
3551       rcountop = RECDUP()
3552       SET DISPLAY TO W4Z6
3553       rcountop = 46
3554     ENDIF
3555   CASE percent = "u43Z7"
3556     IF "CHR(7) = 0 SYS(2004)"
3557       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3558     ELSE
3559       CLEAR
3560       rcountop = RECDUP()
3561       SET DISPLAY TO W4Z7
3562       rcountop = 46
3563     ENDIF
3564   CASE percent = "u43Z8"
3565     IF "CHR(7) = 0 SYS(2004)"
3566       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3567     ELSE
3568       CLEAR
3569       rcountop = RECDUP()
3570       SET DISPLAY TO W4Z8
3571       rcountop = 46
3572     ENDIF
3573   CASE percent = "u43Z9"
3574     IF "CHR(7) = 0 SYS(2004)"
3575       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3576     ELSE
3577       CLEAR
3578       rcountop = RECDUP()
3579       SET DISPLAY TO W4Z9
3580       rcountop = 46
3581     ENDIF
3582   CASE percent = "u43Z10"
3583     IF "CHR(7) = 0 SYS(2004)"
3584       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3585     ELSE
3586       CLEAR
3587       rcountop = RECDUP()
3588       SET DISPLAY TO W4Z10
3589       rcountop = 46
3590     ENDIF
3591   CASE percent = "u43Z11"
3592     IF "CHR(7) = 0 SYS(2004)"
3593       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3594     ELSE
3595       CLEAR
3596       rcountop = RECDUP()
3597       SET DISPLAY TO W4Z11
3598       rcountop = 46
3599     ENDIF
3600   CASE percent = "u43Z12"
3601     IF "CHR(7) = 0 SYS(2004)"
3602       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3603     ELSE
3604       CLEAR
3605       rcountop = RECDUP()
3606       SET DISPLAY TO W4Z12
3607       rcountop = 46
3608     ENDIF
3609   CASE percent = "u43Z13"
3610     IF "CHR(7) = 0 SYS(2004)"
3611       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3612     ELSE
3613       CLEAR
3614       rcountop = RECDUP()
3615       SET DISPLAY TO W4Z13
3616       rcountop = 46
3617     ENDIF
3618   CASE percent = "u43Z14"
3619     IF "CHR(7) = 0 SYS(2004)"
3620       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3621     ELSE
3622       CLEAR
3623       rcountop = RECDUP()
3624       SET DISPLAY TO W4Z14
3625       rcountop = 46
3626     ENDIF
3627   CASE percent = "u43Z15"
3628     IF "CHR(7) = 0 SYS(2004)"
3629       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3630     ELSE
3631       CLEAR
3632       rcountop = RECDUP()
3633       SET DISPLAY TO W4Z15
3634       rcountop = 46
3635     ENDIF
3636   CASE percent = "u43Z16"
3637     IF "CHR(7) = 0 SYS(2004)"
3638       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3639     ELSE
3640       CLEAR
3641       rcountop = RECDUP()
3642       SET DISPLAY TO W4Z16
3643       rcountop = 46
3644     ENDIF
3645   CASE percent = "u43Z17"
3646     IF "CHR(7) = 0 SYS(2004)"
3647       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3648     ELSE
3649       CLEAR
3650       rcountop = RECDUP()
3651       SET DISPLAY TO W4Z17
3652       rcountop = 46
3653     ENDIF
3654   CASE percent = "u43Z18"
3655     IF "CHR(7) = 0 SYS(2004)"
3656       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3657     ELSE
3658       CLEAR
3659       rcountop = RECDUP()
3660       SET DISPLAY TO W4Z18
3661       rcountop = 46
3662     ENDIF
3663   CASE percent = "u43Z19"
3664     IF "CHR(7) = 0 SYS(2004)"
3665       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3666     ELSE
3667       CLEAR
3668       rcountop = RECDUP()
3669       SET DISPLAY TO W4Z19
3670       rcountop = 46
3671     ENDIF
3672   CASE percent = "u43Z20"
3673     IF "CHR(7) = 0 SYS(2004)"
3674       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3675     ELSE
3676       CLEAR
3677       rcountop = RECDUP()
3678       SET DISPLAY TO W4Z20
3679       rcountop = 46
3680     ENDIF
3681   CASE percent = "u43Z21"
3682     IF "CHR(7) = 0 SYS(2004)"
3683       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3684     ELSE
3685       CLEAR
3686       rcountop = RECDUP()
3687       SET DISPLAY TO W4Z21
3688       rcountop = 46
3689     ENDIF
3690   CASE percent = "u43Z22"
3691     IF "CHR(7) = 0 SYS(2004)"
3692       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3693     ELSE
3694       CLEAR
3695       rcountop = RECDUP()
3696       SET DISPLAY TO W4Z22
3697       rcountop = 46
3698     ENDIF
3699   CASE percent = "u43Z23"
3700     IF "CHR(7) = 0 SYS(2004)"
3701       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3702     ELSE
3703       CLEAR
3704       rcountop = RECDUP()
3705       SET DISPLAY TO W4Z23
3706       rcountop = 46
3707     ENDIF
3708   CASE percent = "u43Z24"
3709     IF "CHR(7) = 0 SYS(2004)"
3710       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3711     ELSE
3712       CLEAR
3713       rcountop = RECDUP()
3714       SET DISPLAY TO W4Z24
3715       rcountop = 46
3716     ENDIF
3717   CASE percent = "u43Z25"
3718     IF "CHR(7) = 0 SYS(2004)"
3719       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3720     ELSE
3721       CLEAR
3722       rcountop = RECDUP()
3723       SET DISPLAY TO W4Z25
3724       rcountop = 46
3725     ENDIF
3726   CASE percent = "u43Z26"
3727     IF "CHR(7) = 0 SYS(2004)"
3728       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3729     ELSE
3730       CLEAR
3731       rcountop = RECDUP()
3732       SET DISPLAY TO W4Z26
3733       rcountop = 46
3734     ENDIF
3735   CASE percent = "u43Z27"
3736     IF "CHR(7) = 0 SYS(2004)"
3737       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3738     ELSE
3739       CLEAR
3740       rcountop = RECDUP()
3741       SET DISPLAY TO W4Z27
3742       rcountop = 46
3743     ENDIF
3744   CASE percent = "u43Z28"
3745     IF "CHR(7) = 0 SYS(2004)"
3746       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3747     ELSE
3748       CLEAR
3749       rcountop = RECDUP()
3750       SET DISPLAY TO W4Z28
3751       rcountop = 46
3752     ENDIF
3753   CASE percent = "u43Z29"
3754     IF "CHR(7) = 0 SYS(2004)"
3755       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3756     ELSE
3757       CLEAR
3758       rcountop = RECDUP()
3759       SET DISPLAY TO W4Z29
3760       rcountop = 46
3761     ENDIF
3762   CASE percent = "u43Z30"
3763     IF "CHR(7) = 0 SYS(2004)"
3764       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3765     ELSE
3766       CLEAR
3767       rcountop = RECDUP()
3768       SET DISPLAY TO W4Z30
3769       rcountop = 46
3770     ENDIF
3771   CASE percent = "u43Z31"
3772     IF "CHR(7) = 0 SYS(2004)"
3773       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3774     ELSE
3775       CLEAR
3776       rcountop = RECDUP()
3777       SET DISPLAY TO W4Z31
3778       rcountop = 46
3779     ENDIF
3780   CASE percent = "u43Z32"
3781     IF "CHR(7) = 0 SYS(2004)"
3782       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3783     ELSE
3784       CLEAR
3785       rcountop = RECDUP()
3786       SET DISPLAY TO W4Z32
3787       rcountop = 46
3788     ENDIF
3789   CASE percent = "u43Z33"
3790     IF "CHR(7) = 0 SYS(2004)"
3791       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3792     ELSE
3793       CLEAR
3794       rcountop = RECDUP()
3795       SET DISPLAY TO W4Z33
3796       rcountop = 46
3797     ENDIF
3798   CASE percent = "u43Z34"
3799     IF "CHR(7) = 0 SYS(2004)"
3800       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3801     ELSE
3802       CLEAR
3803       rcountop = RECDUP()
3804       SET DISPLAY TO W4Z34
3805       rcountop = 46
3806     ENDIF
3807   CASE percent = "u43Z35"
3808     IF "CHR(7) = 0 SYS(2004)"
3809       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3810     ELSE
3811       CLEAR
3812       rcountop = RECDUP()
3813       SET DISPLAY TO W4Z35
3814       rcountop = 46
3815     ENDIF
3816   CASE percent = "u43Z36"
3817     IF "CHR(7) = 0 SYS(2004)"
3818       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3819     ELSE
3820       CLEAR
3821       rcountop = RECDUP()
3822       SET DISPLAY TO W4Z36
3823       rcountop = 46
3824     ENDIF
3825   CASE percent = "u43Z37"
3826     IF "CHR(7) = 0 SYS(2004)"
3827       WAIT "Error, Vca video adapter required." WINDOW TIMEOUT 2
3828     ELSE
3829       CLEAR
3830       rcountop = RECDUP()
3831       SET DISPLAY TO W4Z37
3832       rcountop = 46
3833     ENDIF
3834   CASE percent = "u43Z38"
```

```

440 ENDIF
441 IF FILE( tempfile )
442 IF ( / floppy )
443 REMOVE tempfile to Bufile
444 ENDIF
445 ELSE
446 ERASE tempfile
447 IF (bufile = "A.VIEWERS.DBF")
448 n ---- Write members backup data to file nps_alc.dbf
449 SELECT 5
450 GO TOP
451 REPLACE nps_alc.bu_date WITH DATE()
452 ENDIF
453 ENDIF
454 ENDIF
455 RETURN
456
457 Procedure: SAYREC
458 n1
459 n1
460 n1
461 n1
462 n1
463 n1
464 n1
465 n1
466
467 Procedure: GETKEY
468 n1
469 n1
470 DO nps_savs
471 RETURN
472
473 Procedure: GETKEY
474 n1
475 n1
476 n1
477 n1
478 n1
479 n1
480 n1
481 n1
482 n1
483 n1
484 n1
485 n1
486 n1
487 n1
488 n1
489 n1
490 n1
491 n1
492 n1
493 n1
494 n1
495 n1
496 n1
497 n1
498
499 Procedure: Getkey
500 PARAMETER choice, keychars
501 PRIVATE keycode
502 choice = ""
503 DO WHILE .NOT. (choice @ keychars)
504 keycode = INKEY()
505 IF keycode > 0
506 choice = UPPER(CHR(keycode))
507 ENDOF
508 ENDDO
509 RETURN
510
511 Procedure: stat_line
512 n1
513 n1
514 n1
515 n1
516 n1
517
518 Procedure: stat_line
519 PARAMETER recnum, isdeleted
520 SET COLOR TO W/N,M/W
521 @ 0, 8 SAY SUBSTR( STR( recnum + 1000000.7 ), 2 )
522 @ 0.29 SAY "< 3"
523 @ 0.30 SAY SUBSTR( dbfname, 1, AT( " ". dbfname ) - 1 )
524 IF isdeleted
525 @ 0.50 SAY "DELETED"
526 ELSE
527 @ 0.50 SAY " "

```



```

328 ENDIF
329 RETURN
330 * *****
331 *
332 *
333 *
334 *
335 *
336 *
337 *
338 *
339 *
340 *
341 *
342 *
343 *
344 *
345 *
346 *
347 *
348 *
349 *
350 *
351 *
352 *
353 *
354 *
355 *
356 *
357 *
358 *
359 *
360 *
361 *
362 *
363 *
364 *
365 *
366 *
367 *
368 *
369 *
370 *
371 *
372 *
373 *
374 *
375 *
376 *
377 *
378 *
379 *
380 *
381 *
382 *
383 *
384 *
385 *
386 *
387 *
388 *
389 *
390 *
391 *
392 *
393 *
394 *
395 *
396 *
397 *
398 *
399 *
400 *
401 *
402 *
403 *
404 *
405 *
406 *
407 *
408 *
409 *
410 *
411 *
412 *
413 *
414 *
415 *
416 *
417 *
418 *
419 *
420 *
421 *
422 *
423 *
424 *
425 *
426 *
427 *
428 *
429 *
430 *
431 *
432 *
433 *
434 *
435 *
436 *
437 *
438 *
439 *
440 *
441 *
442 *
443 *
444 *
445 *
446 *
447 *
448 *
449 *
450 *
451 *
452 *
453 *
454 *
455 *
456 *
457 *
458 *
459 *
460 *
461 *
462 *
463 *
464 *
465 *
466 *
467 *
468 *
469 *
470 *
471 *
472 *
473 *
474 *
475 *
476 *
477 *
478 *
479 *
480 *
481 *
482 *
483 *
484 *
485 *
486 *
487 *
488 *
489 *
490 *
491 *
492 *
493 *
494 *
495 *
496 *
497 *
498 *
499 *
500 *
501 *
502 *
503 *
504 *
505 *
506 *
507 *
508 *
509 *
510 *
511 *
512 *
513 *
514 *
515 *
516 *
517 *
518 *
519 *
520 *
521 *
522 *
523 *
524 *
525 *
526 *
527 *
528 *
529 *
530 *
531 *
532 *
533 *
534 *
535 *
536 *
537 *
538 *
539 *
540 *
541 *
542 *
543 *
544 *
545 *
546 *
547 *
548 *
549 *
550 *
551 *
552 *
553 *
554 *
555 *
556 *
557 *
558 *
559 *
560 *
561 *
562 *
563 *
564 *
565 *
566 *
567 *
568 *
569 *
570 *
571 *
572 *
573 *
574 *
575 *
576 *
577 *
578 *
579 *
580 *
581 *
582 *
583 *
584 *
585 *
586 *
587 *
588 *
589 *
590 *
591 *
592 *
593 *
594 *
595 *
596 *
597 *
598 *
599 *
600 *
601 *
602 *
603 *
604 *
605 *
606 *
607 *
608 *
609 *
610 *
611 *
612 *
613 *
614 *
615 *
616 *
617 *
618 *
619 *
620 *
621 *
622 *
623 *
624 *
625 *
626 *
627 *
628 *
629 *
630 *
631 *
632 *
633 *
634 *
635 *
636 *
637 *
638 *
639 *
640 *
641 *
642 *
643 *
644 *
645 *
646 *
647 *
648 *
649 *
650 *
651 *
652 *
653 *
654 *
655 *
656 *
657 *
658 *
659 *
660 *
661 *
662 *
663 *
664 *
665 *
666 *
667 *
668 *
669 *
670 *
671 *
672 *
673 *
674 *
675 *
676 *
677 *
678 *
679 *
680 *
681 *
682 *
683 *
684 *
685 *
686 *
687 *
688 *
689 *
690 *
691 *
692 *
693 *
694 *
695 *
696 *
697 *
698 *
699 *
700 *
701 *
702 *
703 *
704 *
705 *
706 *
707 *
708 *
709 *
710 *
711 *
712 *
713 *
714 *
715 *
716 *
717 *
718 *
719 *
720 *
721 *
722 *
723 *
724 *
725 *
726 *
727 *
728 *
729 *
730 *
731 *
732 *
733 *
734 *
735 *
736 *
737 *
738 *
739 *
740 *
741 *
742 *
743 *
744 *
745 *
746 *
747 *
748 *
749 *
750 *
751 *
752 *
753 *
754 *
755 *
756 *
757 *
758 *
759 *
760 *
761 *
762 *
763 *
764 *
765 *
766 *
767 *
768 *
769 *
770 *
771 *
772 *
773 *
774 *
775 *
776 *
777 *
778 *
779 *
780 *
781 *
782 *
783 *
784 *
785 *
786 *
787 *
788 *
789 *
790 *
791 *
792 *
793 *
794 *
795 *
796 *
797 *
798 *
799 *
800 *
801 *
802 *
803 *
804 *
805 *
806 *
807 *
808 *
809 *
810 *
811 *
812 *
813 *
814 *
815 *
816 *
817 *
818 *
819 *
820 *
821 *
822 *
823 *
824 *
825 *
826 *
827 *
828 *
829 *
830 *
831 *
832 *
833 *
834 *
835 *
836 *
837 *
838 *
839 *
840 *
841 *
842 *
843 *
844 *
845 *
846 *
847 *
848 *
849 *
850 *
851 *
852 *
853 *
854 *
855 *
856 *
857 *
858 *
859 *
860 *
861 *
862 *
863 *
864 *
865 *
866 *
867 *
868 *
869 *
870 *
871 *
872 *
873 *
874 *
875 *
876 *
877 *
878 *
879 *
880 *
881 *
882 *
883 *
884 *
885 *
886 *
887 *
888 *
889 *
890 *
891 *
892 *
893 *
894 *
895 *
896 *
897 *
898 *
899 *
900 *
901 *
902 *
903 *
904 *
905 *
906 *
907 *
908 *
909 *
910 *
911 *
912 *
913 *
914 *
915 *
916 *
917 *
918 *
919 *
920 *
921 *
922 *
923 *
924 *
925 *
926 *
927 *
928 *
929 *
930 *
931 *
932 *
933 *
934 *
935 *
936 *
937 *
938 *
939 *
940 *
941 *
942 *
943 *
944 *
945 *
946 *
947 *
948 *
949 *
950 *
951 *
952 *
953 *
954 *
955 *
956 *
957 *
958 *
959 *
960 *
961 *
962 *
963 *
964 *
965 *
966 *
967 *
968 *
969 *
970 *
971 *
972 *
973 *
974 *
975 *
976 *
977 *
978 *
979 *
980 *
981 *
982 *
983 *
984 *
985 *
986 *
987 *
988 *
989 *
990 *
991 *
992 *
993 *
994 *
995 *
996 *
997 *
998 *
999 *
1000 *

```

```

615 0 ROW,0 CLEAR
617 DO CASE
618 CASE choice = returnkey
619     RETURN
620 RETURN
621 CASE choice = "1"
622     goto top
623     refresh
624 CASE choice = "2"
625     goto bottom
626     refresh
627 CASE choice = "3"
628     do selectrec with row,recnum,lastrecnum
629     ENDOCASE
630 RETURN
631 *-----
632 * Procedure: DOLOCATE
633 *-----
634 *
635 * Called by: SAYLINE
636 *           ! SAVEDEF
637 *           ! DOCONT
638 *-----
639 *
640 PROCEDURE DOLOCATE
641     PARAMETER ROW,ROWDEF
642     PRIVATE oldrecnum
643     oldrecnum = RECHNO()
644     DO SAYLINE WITH ROW,"Locating..."
645     LOCATE FOR ROWDEF
646     IF EOF()
647         DO saveall WITH ROW,oldrecnum
648     ELSE
649         0 ROW,0 CLEAR
650         0 ROW,0 SAY "LOCATE FOR" GET row
651         CLEAR GETS
652         DO DOCONT WITH ROW
653     ENDOIF
654     RETURN
655 *-----
656 * Procedure: DOCONT
657 *-----
658 * Called by: DOLOCATE
659 *
660 * Called by: SAYREC
661 *           ! SAYLINE
662 *           ! GETKEY
663 *           ! SAVEDEF
664 *-----
665 *
666 PROCEDURE DOCONT
667     PARAMETER ROW
668     PRIVATE oldrecnum
669     DO choice = "Y"
670     DO WHILE choice = "Y" AND .NOT. EOF()
671         oldrecnum = RECHNO()
672     DO SAYREC
673     DO SAYLINE WITH ROW,"Continue? (y/n)"
674     DO GETKEY WITH choice,"N" RETURNKEY
675     0 ROW,0 CLEAR
676     IF choice = "Y"
677         CONTINUE
678     ENDOIF
679     ENDDO
680     IF EOF()
681         DO saveall WITH ROW,oldrecnum
682     ENDOIF
683     RETURN
684 *-----
685 * Procedure: MPS_AREA
686 *-----
687 * Called by: MPS.FILE
688 *           ! MPS.OPEN.PRG
689 *           ! MPS.REC
690 *-----
691 *
692 PROCEDURE MPS_AREA
693     SELECT * FROM
694     SELECT * FROM
695     SELECT * FROM
696     SELECT * FROM
697     SELECT * FROM
698     SELECT * FROM
699     SELECT * FROM
700     SELECT * FROM
701     SELECT * FROM
702     SELECT * FROM
703     SELECT * FROM
704     SELECT * FROM
705     SELECT * FROM
706     SELECT * FROM
707     SELECT * FROM
708     SELECT * FROM
709     SELECT * FROM
710     SELECT * FROM
711     SELECT * FROM
712     SELECT * FROM
713     SELECT * FROM
714     SELECT * FROM
715     SELECT * FROM
716     SELECT * FROM
717     SELECT * FROM
718     SELECT * FROM
719     SELECT * FROM
720     SELECT * FROM
721     SELECT * FROM
722     SELECT * FROM
723     SELECT * FROM
724     SELECT * FROM
725     SELECT * FROM
726     SELECT * FROM
727     SELECT * FROM
728     SELECT * FROM
729     SELECT * FROM
730     SELECT * FROM
731     SELECT * FROM
732     SELECT * FROM
733     SELECT * FROM
734     SELECT * FROM
735     SELECT * FROM
736     SELECT * FROM
737     SELECT * FROM
738     SELECT * FROM
739     SELECT * FROM
740     SELECT * FROM
741     SELECT * FROM
742     SELECT * FROM
743     SELECT * FROM
744     SELECT * FROM
745     SELECT * FROM
746     SELECT * FROM
747     SELECT * FROM
748     SELECT * FROM
749     SELECT * FROM
750     SELECT * FROM
751     SELECT * FROM
752     SELECT * FROM
753     SELECT * FROM
754     SELECT * FROM
755     SELECT * FROM
756     SELECT * FROM
757     SELECT * FROM
758     SELECT * FROM
759     SELECT * FROM
760     SELECT * FROM
761     SELECT * FROM
762     SELECT * FROM
763     SELECT * FROM
764     SELECT * FROM
765     SELECT * FROM
766     SELECT * FROM
767     SELECT * FROM
768     SELECT * FROM
769     SELECT * FROM
770     SELECT * FROM
771     SELECT * FROM
772     SELECT * FROM
773     SELECT * FROM
774     SELECT * FROM
775     SELECT * FROM
776     SELECT * FROM
777     SELECT * FROM
778     SELECT * FROM
779     SELECT * FROM
780     SELECT * FROM
781     SELECT * FROM
782     SELECT * FROM
783     SELECT * FROM
784     SELECT * FROM
785     SELECT * FROM
786     SELECT * FROM
787     SELECT * FROM
788     SELECT * FROM
789     SELECT * FROM
790     SELECT * FROM
791     SELECT * FROM
792     SELECT * FROM
793     SELECT * FROM
794     SELECT * FROM
795     SELECT * FROM
796     SELECT * FROM
797     SELECT * FROM
798     SELECT * FROM
799     SELECT * FROM
800     SELECT * FROM
801     SELECT * FROM
802     SELECT * FROM
803     SELECT * FROM
804     SELECT * FROM
805     SELECT * FROM
806     SELECT * FROM
807     SELECT * FROM
808     SELECT * FROM
809     SELECT * FROM
810     SELECT * FROM
811     SELECT * FROM
812     SELECT * FROM
813     SELECT * FROM
814     SELECT * FROM
815     SELECT * FROM
816     SELECT * FROM
817     SELECT * FROM
818     SELECT * FROM
819     SELECT * FROM
820     SELECT * FROM
821     SELECT * FROM
822     SELECT * FROM
823     SELECT * FROM
824     SELECT * FROM
825     SELECT * FROM
826     SELECT * FROM
827     SELECT * FROM
828     SELECT * FROM
829     SELECT * FROM
830     SELECT * FROM
831     SELECT * FROM
832     SELECT * FROM
833     SELECT * FROM
834     SELECT * FROM
835     SELECT * FROM
836     SELECT * FROM
837     SELECT * FROM
838     SELECT * FROM
839     SELECT * FROM
840     SELECT * FROM
841     SELECT * FROM
842     SELECT * FROM
843     SELECT * FROM
844     SELECT * FROM
845     SELECT * FROM
846     SELECT * FROM
847     SELECT * FROM
848     SELECT * FROM
849     SELECT * FROM
850     SELECT * FROM
851     SELECT * FROM
852     SELECT * FROM
853     SELECT * FROM
854     SELECT * FROM
855     SELECT * FROM
856     SELECT * FROM
857     SELECT * FROM
858     SELECT * FROM
859     SELECT * FROM
860     SELECT * FROM
861     SELECT * FROM
862     SELECT * FROM
863     SELECT * FROM
864     SELECT * FROM
865     SELECT * FROM
866     SELECT * FROM
867     SELECT * FROM
868     SELECT * FROM
869     SELECT * FROM
870     SELECT * FROM
871     SELECT * FROM
872     SELECT * FROM
873     SELECT * FROM
874     SELECT * FROM
875     SELECT * FROM
876     SELECT * FROM
877     SELECT * FROM
878     SELECT * FROM
879     SELECT * FROM
880     SELECT * FROM
881     SELECT * FROM
882     SELECT * FROM
883     SELECT * FROM
884     SELECT * FROM
885     SELECT * FROM
886     SELECT * FROM
887     SELECT * FROM
888     SELECT * FROM
889     SELECT * FROM
890     SELECT * FROM
891     SELECT * FROM
892     SELECT * FROM
893     SELECT * FROM
894     SELECT * FROM
895     SELECT * FROM
896     SELECT * FROM
897     SELECT * FROM
898     SELECT * FROM
899     SELECT * FROM
900     SELECT * FROM
901     SELECT * FROM
902     SELECT * FROM
903     SELECT * FROM
904     SELECT * FROM
905     SELECT * FROM
906     SELECT * FROM
907     SELECT * FROM
908     SELECT * FROM
909     SELECT * FROM
910     SELECT * FROM
911     SELECT * FROM
912     SELECT * FROM
913     SELECT * FROM
914     SELECT * FROM
915     SELECT * FROM
916     SELECT * FROM
917     SELECT * FROM
918     SELECT * FROM
919     SELECT * FROM
920     SELECT * FROM
921     SELECT * FROM
922     SELECT * FROM
923     SELECT * FROM
924     SELECT * FROM
925     SELECT * FROM
926     SELECT * FROM
927     SELECT * FROM
928     SELECT * FROM
929     SELECT * FROM
930     SELECT * FROM
931     SELECT * FROM
932     SELECT * FROM
933     SELECT * FROM
934     SELECT * FROM
935     SELECT * FROM
936     SELECT * FROM
937     SELECT * FROM
938     SELECT * FROM
939     SELECT * FROM
940     SELECT * FROM
941     SELECT * FROM
942     SELECT * FROM
943     SELECT * FROM
944     SELECT * FROM
945     SELECT * FROM
946     SELECT * FROM
947     SELECT * FROM
948     SELECT * FROM
949     SELECT * FROM
950     SELECT * FROM
951     SELECT * FROM
952     SELECT * FROM
953     SELECT * FROM
954     SELECT * FROM
955     SELECT * FROM
956     SELECT * FROM
957     SELECT * FROM
958     SELECT * FROM
959     SELECT * FROM
960     SELECT * FROM
961     SELECT * FROM
962     SELECT * FROM
963     SELECT * FROM
964     SELECT * FROM
965     SELECT * FROM
966     SELECT * FROM
967     SELECT * FROM
968     SELECT * FROM
969     SELECT * FROM
970     SELECT * FROM
971     SELECT * FROM
972     SELECT * FROM
973     SELECT * FROM
974     SELECT * FROM
975     SELECT * FROM
976     SELECT * FROM
977     SELECT * FROM
978     SELECT * FROM
979     SELECT * FROM
980     SELECT * FROM
981     SELECT * FROM
982     SELECT * FROM
983     SELECT * FROM
984     SELECT * FROM
985     SELECT * FROM
986     SELECT * FROM
987     SELECT * FROM
988     SELECT * FROM
989     SELECT * FROM
990     SELECT * FROM
991     SELECT * FROM
992     SELECT * FROM
993     SELECT * FROM
994     SELECT * FROM
995     SELECT * FROM
996     SELECT * FROM
997     SELECT * FROM
998     SELECT * FROM
999     SELECT * FROM
1000    SELECT * FROM

```

[illegible]

[illegible]

```

080 ERROR "3 digit Curriculum Number required."
081
082 READ
083 label = (" " + TRIM( occur_numc ))
084
085 PROCEDURE
086
087
088
089
090
091
092
093
094
095
096
097
098
099
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

```

[illegible]

[illegible]

```

1144 STORE ACTIVITY,ACT_NAME TO ACT_NAME
1145 STORE ACTIVITY,TYPE TO ACTIVITY_TYPE
1146 STORE ACTIVITY,S TO ACTIVITY_S
1147 RETURN
1148 * End of procedure for processing activity codes. Code is added to database table if database table exists or code is added to database table if it does not exist.
1149 **
1150 Procedure: MPS_CSTO
1151 **
1152 Called by: MPS_STORE
1153 **
1154 **
1155 PROCEDURE mp_csto
1156 ***Using CURSOR, DEF
1157 ***Initialize arrays with field contents.
1158 STORE CURRICUL_CURR_NAME TO curr_name
1159 STORE CURRICUL_CURR_CODE TO curr_code
1160 STORE CURRICUL_CURR_CODE TO adpt_code
1161 STORE CURRICUL_CURR_CODE TO adpshn_no
1162 RETURN
1163 ** End of procedure for processing curriculum codes. Code is added to database table if database table exists or code is added to database table if it does not exist.
1164 **
1165 Procedure: MPS_GETS
1166 **
1167 Called by: MPS_APPG_PMG
1168 , MPS_EDIT_PMG
1169 **
1170 Calls: MPS_AGET
1171 , MPS_BGET
1172 , MPS_CGET
1173 **
1174 **
1175 PROCEDURE mp_s_gets
1176 DO CASE
1177 CASE adpshn = "1"
1178 DO mp_aget
1179 CASE adpshn = "2"
1180 DO mp_bget
1181 CASE adpshn = "3"
1182 DO mp_cget
1183 ENDCASE
1184 RETURN
1185 ** End of procedure for processing subject codes. Code is added to database table if database table exists or code is added to database table if it does not exist.
1186 **
1187 Procedure: MPS_AGET
1188 **
1189 Called by: MPS_GETS
1190 **
1191 Calls: VAL_BRANCH
1192 , VAL_PMD
1193 , VAL_UIC
1194 , VAL_CURR
1195 **
1196 **
1197 PROCEDURE mp_s_aget
1198 ***Using MEMBERS, DEF
1199 SET COLOR TO W/N N/W
1200 @ 5.13 GET mast_name PICTURE "(AAAAAAAAAAAAAAAAAAAAAA)" ;
1201 VALID NOT EMPTY(ALLTRIM(mast_name));
1202 @ 5.51 GET last_name PICTURE "(AAAAAAAAA)" ;
1203 @ 5.51 GET first_name PICTURE "(AAAAAAAAA)" ;
1204 VALID NOT EMPTY(ALLTRIM(first_name));
1205 ERROR "First name required." FUNCTION "1" ;
206 @ 7.13 GET msi PICTURE "(1)" FUNCTION "A" ;
207 @ 7.13 GET grant_rate PICTURE "9" FUNCTION "A" ;
208 VALID NOT EMPTY(ALLTRIM(grant_rate));
209 ERROR "Grant or rate required." FUNCTION "1" ;
210 @ 7.37 GET branch PICTURE "91" VALID(VAL_branch(branch)) ;
211 ERROR "Service branch required." FUNCTION "A" ;
212 @ 7.58 GET mast_t2 PICTURE "D" VALID( NOT EMPTY(mast_t2)) .AND. (mast_t2 <= DATE()) .AND. (mast_t2 <= CTOD("01/01/89"));
213 @ 7.76 GET mast_last_12 data required." ;
214 @ 7.76 GET mast_last_12 data required." ;
215 @ 9.15 GET memo PICTURE "91" VALID(VAL_memo(memo)) ;
216 @ 9.15 GET memo PICTURE "91" VALID(VAL_memo(memo)) ;
217 ERROR "Memo status required." FUNCTION "A" ;
218 @ 12.10 GET muc PICTURE "91" VALID(VAL_uic(uic)) ;
219 ERROR "UIC required. Append new UIC to ACTIVITY_DEF if N/A." ;
220 RETURN
2221 IF LASTKEY() = 27
2222 RETURN
2223 ENDIF
2224 CASE muc <> "31405"
2225 DO CASE
2226 CASE muc <> "31405"
2227 @ 12.16 CLEAR TO 13,78
2228 @ 13.30 SAY "Department Code "+SPACE(28) COLOR M/W N/W
2229 @ 13.30 SAY "Leave blank if NA)-COLOR RB/W-N
2230 @ 12.46 GET mac PICTURE "NNNN"
2231 **
2232 **

```

[illegible]

```

1318 ON ERROR RETURN .F.
1319 REPLACE. WITH open.
1320 son
1321 last_name WITH altac_name.
1322 (first_name WITH first_name.
1323 a)
1324 rank_rate WITH rank_rate.
1325 branch WITH branch.
1326 last_2 WITH altac_2.
1327 class WITH altac.
1328 phone WITH phone.
1329 uic WITH uic.
1330 curr_num WITH curr_num.
1331 sec
1332 ENDIF
1333 RETURN
1334
1335 a)
1336 a)
1337 a)
1338 a)
1339 a)
1340 a)
1341 a)
1342 a)
1343 a)
1344 a)
1345 a)
1346 a)
1347 a)
1348 a)
1349 a)
1350 a)
1351 a)
1352 a)
1353 a)
1354 a)
1355 a)
1356 a)
1357 a)
1358 a)
1359 a)
1360 a)
1361 a)
1362 a)
1363 a)
1364 a)
1365 a)
1366 a)
1367 a)
1368 a)
1369 a)
1370 a)
1371 a)
1372 a)
1373 a)
1374 a)
1375 a)
1376 a)
1377 a)
1378 a)
1379 a)
1380 a)
1381 a)
1382 a)
1383 a)
1384 a)
1385 a)
1386 a)
1387 a)
1388 a)
1389 a)
1390 a)
1391 a)
1392 a)
1393 a)
1394 a)
1395 a)
1396 a)
1397 a)
1398 a)
1399 a)
1400 a)
1401 a)
1402 a)
1403 a)
1404 a)
1405 a)
1406 a)
1407 a)
1408 a)
1409 a)
1410 a)
1411 a)
1412 a)
1413 a)
1414 a)
1415 a)
1416 a)
1417 a)
1418 a)
1419 a)
1420 a)
1421 a)
1422 a)
1423 a)
1424 a)
1425 a)
1426 a)
1427 a)
1428 a)
1429 a)
1430 a)
1431 a)
1432 a)
1433 a)
1434 a)
1435 a)
1436 a)
1437 a)
1438 a)
1439 a)
1440 a)
1441 a)
1442 a)
1443 a)
1444 a)
1445 a)
1446 a)
1447 a)
1448 a)
1449 a)
1450 a)
1451 a)
1452 a)
1453 a)
1454 a)
1455 a)
1456 a)
1457 a)
1458 a)
1459 a)
1460 a)
1461 a)
1462 a)
1463 a)
1464 a)
1465 a)
1466 a)
1467 a)
1468 a)
1469 a)
1470 a)
1471 a)
1472 a)
1473 a)
1474 a)
1475 a)
1476 a)
1477 a)
1478 a)
1479 a)
1480 a)
1481 a)
1482 a)
1483 a)
1484 a)
1485 a)
1486 a)
1487 a)
1488 a)
1489 a)
1490 a)
1491 a)
1492 a)
1493 a)
1494 a)
1495 a)
1496 a)
1497 a)
1498 a)
1499 a)
1500 a)
1501 a)
1502 a)
1503 a)
1504 a)
1505 a)
1506 a)
1507 a)
1508 a)
1509 a)
1510 a)
1511 a)
1512 a)
1513 a)
1514 a)
1515 a)
1516 a)
1517 a)
1518 a)
1519 a)
1520 a)
1521 a)
1522 a)
1523 a)
1524 a)
1525 a)
1526 a)
1527 a)
1528 a)
1529 a)
1530 a)
1531 a)
1532 a)
1533 a)
1534 a)
1535 a)
1536 a)
1537 a)
1538 a)
1539 a)
1540 a)
1541 a)
1542 a)
1543 a)
1544 a)
1545 a)
1546 a)
1547 a)
1548 a)
1549 a)
1550 a)
1551 a)
1552 a)
1553 a)
1554 a)
1555 a)
1556 a)
1557 a)
1558 a)
1559 a)
1560 a)
1561 a)
1562 a)
1563 a)
1564 a)
1565 a)
1566 a)
1567 a)
1568 a)
1569 a)
1570 a)
1571 a)
1572 a)
1573 a)
1574 a)
1575 a)
1576 a)
1577 a)
1578 a)
1579 a)
1580 a)
1581 a)
1582 a)
1583 a)
1584 a)
1585 a)
1586 a)
1587 a)
1588 a)
1589 a)
1590 a)
1591 a)
1592 a)
1593 a)
1594 a)
1595 a)
1596 a)
1597 a)
1598 a)
1599 a)
1600 a)
1601 a)
1602 a)
1603 a)
1604 a)
1605 a)
1606 a)
1607 a)
1608 a)
1609 a)
1610 a)
1611 a)
1612 a)
1613 a)
1614 a)
1615 a)
1616 a)
1617 a)
1618 a)
1619 a)
1620 a)
1621 a)
1622 a)
1623 a)
1624 a)
1625 a)
1626 a)
1627 a)
1628 a)
1629 a)
1630 a)
1631 a)
1632 a)
1633 a)
1634 a)
1635 a)
1636 a)
1637 a)
1638 a)
1639 a)
1640 a)
1641 a)
1642 a)
1643 a)
1644 a)
1645 a)
1646 a)
1647 a)
1648 a)
1649 a)
1650 a)
1651 a)
1652 a)
1653 a)
1654 a)
1655 a)
1656 a)
1657 a)
1658 a)
1659 a)
1660 a)
1661 a)
1662 a)
1663 a)
1664 a)
1665 a)
1666 a)
1667 a)
1668 a)
1669 a)
1670 a)
1671 a)
1672 a)
1673 a)
1674 a)
1675 a)
1676 a)
1677 a)
1678 a)
1679 a)
1680 a)
1681 a)
1682 a)
1683 a)
1684 a)
1685 a)
1686 a)
1687 a)
1688 a)
1689 a)
1690 a)
1691 a)
1692 a)
1693 a)
1694 a)
1695 a)
1696 a)
1697 a)
1698 a)
1699 a)
1700 a)
1701 a)
1702 a)
1703 a)
1704 a)
1705 a)
1706 a)
1707 a)
1708 a)
1709 a)
1710 a)
1711 a)
1712 a)
1713 a)
1714 a)
1715 a)
1716 a)
1717 a)
1718 a)
1719 a)
1720 a)
1721 a)
1722 a)
1723 a)
1724 a)
1725 a)
1726 a)
1727 a)
1728 a)
1729 a)
1730 a)
1731 a)
1732 a)
1733 a)
1734 a)
1735 a)
1736 a)
1737 a)
1738 a)
1739 a)
1740 a)
1741 a)
1742 a)
1743 a)
1744 a)
1745 a)
1746 a)
1747 a)
1748 a)
1749 a)
1750 a)
1751 a)
1752 a)
1753 a)
1754 a)
1755 a)
1756 a)
1757 a)
1758 a)
1759 a)
1760 a)
1761 a)
1762 a)
1763 a)
1764 a)
1765 a)
1766 a)
1767 a)
1768 a)
1769 a)
1770 a)
1771 a)
1772 a)
1773 a)
1774 a)
1775 a)
1776 a)
1777 a)
1778 a)
1779 a)
1780 a)
1781 a)
1782 a)
1783 a)
1784 a)
1785 a)
1786 a)
1787 a)
1788 a)
1789 a)
1790 a)
1791 a)
1792 a)
1793 a)
1794 a)
1795 a)
1796 a)
1797 a)
1798 a)
1799 a)
1800 a)
1801 a)
1802 a)
1803 a)
1804 a)
1805 a)
1806 a)
1807 a)
1808 a)
1809 a)
1810 a)
1811 a)
1812 a)
1813 a)
1814 a)
1815 a)
1816 a)
1817 a)
1818 a)
1819 a)
1820 a)
1821 a)
1822 a)
1823 a)
1824 a)
1825 a)
1826 a)
1827 a)
1828 a)
1829 a)
1830 a)
1831 a)
1832 a)
1833 a)
1834 a)
1835 a)
1836 a)
1837 a)
1838 a)
1839 a)
1840 a)
1841 a)
1842 a)
1843 a)
1844 a)
1845 a)
1846 a)
1847 a)
1848 a)
1849 a)
1850 a)
1851 a)
1852 a)
1853 a)
1854 a)
1855 a)
1856 a)
1857 a)
1858 a)
1859 a)
1860 a)
1861 a)
1862 a)
1863 a)
1864 a)
1865 a)
1866 a)
1867 a)
1868 a)
1869 a)
1870 a)
1871 a)
1872 a)
1873 a)
1874 a)
1875 a)
1876 a)
1877 a)
1878 a)
1879 a)
1880 a)
1881 a)
1882 a)
1883 a)
1884 a)
1885 a)
1886 a)
1887 a)
1888 a)
1889 a)
1890 a)
1891 a)
1892 a)
1893 a)
1894 a)
1895 a)
1896 a)
18
```

MPS_PROC.PRQ 7 of 7

INITIAL DISTRIBUTION LIST

	No. Copies
1. Defense Technical Information Center Cameron Station Alexandria, Virginia 22304-6145	2
2. Library, Code 52 Naval Postgraduate School Monterey, California 93943-5002	2
3. LCDR Timothy P. Steele, MSC, USN 12339 Coleraine Court Reston, Virginia 22091	2
4. Prof. Hemant K. Bhargava, Code AS/BH Department of Administrative Sciences Naval Postgraduate School Monterey, California 93943-5000	1
5. Prof. Dani Zweig, Code AS/ZG Department of Administrative Sciences Naval Postgraduate School Monterey, California 93943-5000	1
6. Director, Branch Dental Clinic Naval Postgraduate School Monterey, California 93943-5100	1
7. Prof. Tung X. Bui Code AS/BD Department of Administrative Sciences Naval Postgraduate School Monterey, California 93943-5000	1